PATENT FILES

Set	Items	Description
S1	400656	AD OR ADS OR ADVERTISEMENT? OR PROMOTION OR PROMOTIONS
S2	38091	PRICING OR PRICES
S3	655645	ESTIMAT? OR FORECAST? OR PREDICT? OR FORETELL? OR OUTLOOK?
S4	157286	SCHEDUL?
S5	9182	(S2 OR S3 OR S4)(5N)(COMPUTERI? OR ELECTRONIC? OR AUTOMATE-??)
S6	3655	(CREAT? OR GENERAT? OR PRODUCE?? OR PRODUCING)(5N)SCENARIO-??
S7	431	(SCENARIO OR SCENARIOS)(5N)(PLAN? OR PLANS OR PLANNER)
S8	4901	PERFORMANCE()MEASUR?
S9	2196011	EXPOSURE OR FREQUENC? OR BUDGET?? OR DEMOGRAPHIC? OR PSYCH-OGRAPHIC?
S10	4936	AU=(GINSBURG, A? OR GINSBUR A? OR MURRAY, D? OR MURRAY D? - OR WEINBERGER, A? OR WEINBERGER A? OR WILLIAMS, J? OR WILLIAMS J?)
S11	1328	S1 AND S5
S12	49	S11 AND S6
S13	6	S12 AND IC=G06Q?
S14	12	S11 AND S7
S15	11	S14 NOT S13
S16	39	S11 AND S8
S17	4	S16 AND IC=G06Q?
S18	17	(S13 OR S15 OR S17) AND S9
S19	8	S18 AND IC=G06Q?
S20	2	S10 AND S7

?

13/3,K/1   (Item 1 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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01539600   **Image available**
SYSTEMS, METHODS AND COMPUTER READABLE CODE FOR VISUALIZING AND

MANAGING
    DIGITAL CASH
SYSTEMES, PROCEDES ET CODE LISIBLE INFORMATIQUEMENT POUR LA VISUALISATION
    ET LA GESTION D'ARGENT ELECTRONIQUE

International Patent Class (v8 + Attributes)
IPC + Level Value Position Status Version Action Source Office:
 G06Q-0040/00 ...
Fulltext Availability:
 Detailed Description

Detailed Description
... activates an interface (i e dialogue 558) for specifying attributes of
 the cash bundle to **create** . According to the exemplary **scenario** , the
 user specifies a value of $350 and expiry in 30 days Step 3a (Figure...
 digital cash bundle with attributes set to those specified in the
 template and debits the **electronic** wallet 1,500. **Outlook** receives the
 cash bundle and sends the received cash bundle as an attachment to the...

...a higher computational load on the digital cash clearinghouse Figures
22A-22B describe exemplary use **scenarios** where a user may **create** a
password-protected digital cash bundle and how a recipient user redeems
that bundle: Step...

...open and redeem a digital cash bundle displayed on the web site.
 According to this **scenario** , the Internet site would **create** the cash

bundle as a Repeat digital cash bundle redeemable by each user only once

...

...according to how much money the Internet site is prepared to invest in
that marketing **promotion** . When the maximum number of visitors has
redeemed the cash bundle, the **promotion** automatically ends and further
visitors may receive an en or message explaining that this cash...
business wishes to draw people to their physical premises (perhaps by
running a limited time **promotion**). Thus, according to this example,
the business may physically distribute non-volatile memory to potential

...

13/3,K/2   (Item 2 from file: 349)
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01435247
CONSISTENT SET OF INTERFACES DERIVED FROM A BUSINESS OBJECT MODEL
ENSEMBLE D'INTERFACES COHERENT DERIVE D'UN MODELE D'OBJETS
COMMERCIAUX
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Patent: WO 2006117680 A2 20061109 (WO 06117680)
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Priority Application: US 2005656598 20050225; WO 2005US19961 20050603; US
2005145464 20050603; WO 2005US21481 20050617; US 2005155368 20050617;
WO 2005US22137 20050624; US 2005166065 20050624; US 2005729480 20051021
; US 2006364538 20060227
Designated States:
(All protection types applied unless otherwise stated - for applications
2004+)
AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM
DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KM KN KP KR
KZ LC LK LR LS LT LU LV LY MA MD MG MK MN MW MX MZ NA NG NI NO NZ OM PG
PH PL PT RO RU SC SD SE SG SK SL SM SY TJ TM TN TR TT TZ UA UG US UZ VC
VN YU ZA ZM ZW
(EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LT LU LV MC NL
PL PT RO SE SI SK TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
(AP) BW GH GM KE LS MW MZ NA SD SL SZ TZ UG ZM ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
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Fulltext Word Count: 349333

International Patent Class (v8 + Attributes)
IPC + Level Value Position Status Version Action Source Office:
  G06Q-0040/00 ...
Fulltext Availability:
  Detailed Description

Detailed Description
... infirrnation package containing information characterizing a
transmission of an object contained in the message.

An **electronic** message confirming receipt of a request to change,
create, or delete items in a catalogue...

...electronic message to request institutions to carry out one or more
payment transactions can be **generated** by a first application that
executes in a landscape of computer systems providing message-based...
electronic message in a landscape of computer systems.

providing message-based services and initiating a **generation** of a request queiying a buyer * to procure products or services. The received message includes...

...services. Transmission of the message to a second application can be initiated in order to **generate** purchasing contract information. The message can include a purchasing contract package. The purchasing contract package...

...characterizing references to business documents relevant to an item in a purchasing contract release.

An **electronic** message to generate replenishment order information can be generated by a first application that execûtes...

...to a second application can be initiated in order to generate replenishment order infomrntion.

The **electronic** message can include a replenishment order package containing a replenishment order entity characterizing a rep...package can further contain one or more of a business transaction document reference package, a **promotion** package containing information characterizing marketing **promotions** relevant to goods associated with a purchase order, and a schedule line package. The business...from a business object model. Details regarding the creation of the business object model, the **generation** of an interface from the business object model, and the use of an interface **generated** from the business object model are provided below.
Fig. 5 depicts two exemplary data processing...and XF. AB refers to Communications number assigned by Societe Internationale de Telecommunications Aeronautiques (SITA). **AD** refers to the AT&T mailbox identifier. AF refers to the switched telecommunications network of... described in the UN/EDifACT code list 8273 "Dangerous goods regulations code." These include ADR, **ADS** , ADT, ADU, AGS, ANR, ARD, CFR, COM, GVE, GVS, ICA, (MD, RGE, RID, UI, and...

...goods are put away.

Availability Date/time at which something is AvailabilityDateTime

date/time available.

Advertisement Date/time at which something is **AdvertisementDateTime** date/time
advertised.

ChangeDateTime Change date/time Date/time at which something is changed.

CreationDateTime...S identification of the business partner described by the role (e.g., BuyerID, SellerID). A **promotion** can have different objectives, e.g., to generate awareness of a new product, selectively increase...

...brand, retain loyal customers, or fight competition, with various characteristics, e.g., price reductions, retail **promotion** , and

promotional rebates.

GDT PromotionID 19800 is used in connection with cooperative business
processes, in...

...Vendor Managed Inventory (VMI) and Collaborative Planning, Forecasting
nd Replenishment (CPFR) to clearly identify a **promotion** between the
business partners involved. Initially, one business partner, such as a
retail company or a consumer goods iuanufacturer. informs the other
partner of his identification of the **promotion** with a Promotionif).
This identification can then be used as a reference in the downtream...

13/3,K/3   (Item 3 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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01390905   **Image available**
A SYSTEM AND METHOD OF PROCESSING ENTITLEMENT RULES, OFFERING AND
   DELIVERING DIGITAL CONTENT
SYSTEME ET PROCEDE DE TRAITEMENT DE REGLES D'ADMISSIBILITE
PERMETTANT
   D'OFFRIR ET DE DISTRIBUER UN CONTENU NUMERIQUE
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  US)
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Patent and Priority Information (Country, Number, Date):
 Patent: WO 200673543 A2-A3 20060713 (WO 0673543)
 Application: WO 2005US39130 20051031 (PCT/WO US2005039130)
 Priority Application: US 200427574 20041230; US 2005667789 20050402; US
  2005667883 20050402
Designated States:
(All protection types applied unless otherwise stated - for applications
2004+)
 AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM

DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KM KN KP KR
KZ LC LK LR LS LT LU LV LY MA MD MG MK MN MW MX MZ NA NG NI NO NZ OM PG
PH PL PT RO RU SC SD SE SG SK SL SM SY TJ TM TN TR TT TZ UA UG US UZ VC
VN YU ZA ZM ZW
(EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LT LU LV MC NL
PL PT RO SE SI SK TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
(AP) BW GH GM KE LS MW MZ NA SD SL SZ TZ UG ZM ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: English
Filing Language: English
Fulltext Word Count: 12598

International Patent Class (v8 + Attributes)
IPC + Level Value Position Status Version Action Source Office:
  G06Q-0099/00 ...
Fulltext Availability:
  Detailed Description
  Claims

Detailed Description
... the purchase process by reducing the number of steps required to
transact and outlines an **automated** workflow for editing, validating,
scheduling and publishing data.

3
It is another object of the present invention to provide a...

...that automates the offer delivery and content execution process of the
present invention. Specifically, it **automates** the workflow for editing,
validating, **scheduling** and publishing offers to a variety of catalogs
and/or programming guides. It tracks each...

...Digital Media/Content: for the purpose of this invention, digital media
or content refers to **advertisements** , games and audio/video content.

18. URL: Uniform Resource Locator: a unique address for a...a standalone
basis.
Content may be packaged and repackaged based on marketing campaigns and
special **promotions** . It can also be arranged as a compilation for
example, in the case of music...

...is delivered at step 720.

It is noted that dotted line 722, indicates an alternative **scenario**
whereby Entitlement Engine 17 **generates** the license or otherwise
bypasses License Server
31
. Furthermore, it is noted that in one...

Claim
... said packaging rules being based on said content provider's business
model, marketing campaigns and **promotions** .

7 The method as claimed in claim 6, further comprising the step of ·
cataloguing of...

01315544
CONSISTENT SET OF INTERFACES DERIVED FROM A BUSINESS OBJECT MODEL
ENSEMBLE D'INTERFACES COHERENT DERIVE D'UN MODELE D'OBJETS DE
COMMERCE
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ZOLLER Michael, -- (Residence), -- (Nationality), (Designated only for:
  US)
MAAG Thomas, -- (Residence), -- (Nationality), (Designated only for: US)
GROSSMAN Toralf, -- (Residence), -- (Nationality), (Designated only for:
  US)
Legal Representative:
  SAITO Marina N (et al) (agent), Sonnenschein Nath & Rosenthal LLP, P.O.
    Box 061080, Wacker Drive Station, Sears Tower, Chicago, IL 60606-1080,
    US,
Patent and Priority Information (Country, Number, Date):
  Patent: WO 2005122078 A2 20051222 (WO 05122078)
  Application: WO 2005US19961 20050603 (PCT/WO US05019961)
  Priority Application: US 2004577453 20040604; US 2004581252 20040618; US
    2004582949 20040625; US 2005656598 20050225; US 2005669310 20050407; US
    2005145464 20050603
Designated States:
(All protection types applied unless otherwise stated - for applications
2004+)
  AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM
  DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KM KP KR KZ
  LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NG NI NO NZ OM PG PH PL
  PT RO RU SC SD SE SG SK SL SM SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU
  ZA ZM ZW
  (EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LT LU MC NL PL
  PT RO SE SI SK TR
  (OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
  (AP) BW GH GM KE LS MW MZ NA SD SL SZ TZ UG ZM ZW
  (EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: English
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Fulltext Word Count: 216131

Main International Patent Class (v7): G06Q-030/00
Fulltext Availability:
  Detailed Description
  Claims

Detailed Description
... and XF. AB refers to Communications number assigned by Societe
  Internationale de Telecommunications Aeronautiques (SITA). AD refers to
  the AT&T mailbox identifier. AF refers to the switched telecommunications
  network of...

...Synonym: World wide web address. EM refers to the Electronic Mail
  Exchange of mail by electronic means (SMTP). EI refers to the number
  identifying the service and service user of an...for the reason for an
  adjustment. An example of GDT AdjustmentReasonCode 4100 is.

<AdjustmentReasonCode>CANCELED - PROMOTION </ AdjustmentReasonCode >.

The structure of GDT AdjustmentReasonCode 41 00 is depicted in Figure 4
1.

The...

...the "EAN.UCC XML Business Message
Standards, version 1.3 (July 2003)." These include CANCELED- **PROMOTION** ,
DISCONTINUED-PRODUCT, DISTRIBUTION-ISSUE, EXPANDED- **PROMOTION** ,
FORWARD-BUY, INVENTORY-POLICY-CHANGE, NEW-LOCATION,
NEW-PRODUCT, NEW- **PROMOTION** , ORDER-POLICY-CHANGE,
OVERSTOCK-CONDITION, PRICE-CHANGE, PRODUCT-CHANGEOVER,
PRODUCTION - ISSUE, REDUCED- **PROMOTION** , REVISED-PLAN,
REVISED- **PROMOTION** , STORE-CLOSURE, TRANSPORTATION-ISSUE and
WEATHER-RELATED-EVENT. For each use of the above, the...5046 is a date
and time stamp (to the second) for when a message is **created** for the
business document within the business application. For the GDT Creation -
84 Date Time...described in the UN/EDIFACT code list 8273 "Dangerous
goods regulations code." These include ADR, **ADS** , ADT, ADU, AGS, ANIZ,
ARD, CFR, COM, GVE, GVS, ICA, IMD, RGE, RID, U1, and...

...goods are put away.

AvailabilityDateTime Availability Date/time at which something is
date/time available.

AdvertisementDateTime **Advertisement** Date/time at which something is
date/time advertised.

ChangeDateTime Change date/time Date/time...in which goods are put away.

AvailabilityPeriod Availability period Period in which something is
available.

Advertisement
AdvertisementPeriod period Period in which something is advertised.

ExecutionPeriod Execution period Period in which something is...

...EM" is the default value for the SMTP protocol. The main codes are AB
(SITA), **AD** (AT&T mailbox), AF (U.S. Defense Switched Network), AN
(ODETTE File Transfer Protocol), AO...

Claim
... package comprises a BTDI release entity and a BTDI previous release
entity, wherein the BTDI **promotion** package comprises a BTDI **promotion**
entity, wherein the BTDI inventory package comprises a BTDI inventory
entity and a BTDI consignment...

13/3,K/5   (Item 5 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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01213391
ENHANCED PARIMUTUEL WAGERING
PARI DU TYPE PARI MUTUEL AMELIORE
Patent Applicant/Assignee:
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Patent Applicant/Inventor:

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  , US (Nationality), (Designated only for: US)
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  (Residence), IE (Nationality), (Designated only for: US)
Legal Representative:
 WEISS Charles A (agent), Kenyon & Kenyon, One Broadway, New York, NY
  10004, US

International Patent Class (v8 + Attributes)
IPC + Level Value Position Status Version Action Source Office:
  G06Q-0040/00 ...

...US
  G06Q-0099/00 ...
Fulltext Availability:
  Detailed Description

Detailed Description
... such spreads and similar transaction costs.

(5) Settlement and Clearing Costs: The costs of executing,
electronically booking, clearing, and settling derivatives transactions
can be large, sometimes requiring analytical and database software...

...to synthesizing the financial derivatives. Similarly, U.S. Pat. No.
5,794,207 proposes an **electronic** means of matching buyers'bids and
sellers'offers, without explaining the'natuie of the economic...GM
contingent claim, and a total profit of three dollars. In step (2), many
such **scenarios** are **generated** so that a resulting distribution of
profit and loss is obtained. The resulting profits and...

...for which the trader could be 95% confident would not be exceeded,
provided that enough **scenarios** have been **generated** to provide an

adequate representative sample. This number could be used as the CAR value...losing investments. The product represents an estimated loss rate due to investor defaults. Many such **scenarios** can be **generated** so that a resulting distribution of credit-related expected losses can be obtained. The average...

...which a given trader could be 95% confident would not be exceeded, provided that enough **scenarios** have been **generated** to provide a statistically meaningful sample. In preferred embodiments, the selected value in the distribution...an advantage of the multistate allocation methods of the present invention is the ability to **generate scenarios** of profits and losses ("P&L') comparable to the P&L scenarios obtained from selling...

13/3,K/6   (Item 6 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00880983   **Image available**
OFFLINE-ONLINE INCENTIVE POINTS SYSTEM AND METHOD
SYSTEME DE POINTS BONUS FONCTIONNANT EN LIGNE ET HORS LIGNE ET
PROCEDE
    CORRESPONDANT
Patent Applicant/Assignee:
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  (Residence), US (Nationality), (For all designated states except: US)
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  PAL Anil, 1370 Yukon Terrace, Sunnyvale, CA 94087, US, US (Residence), GB
  (Nationality), (Designated only for: US)
  ROMAN David, 1058 Ashbury Street, San Francisco, CA 94117, US, US
  (Residence), US (Nationality), (Designated only for: US)
Legal Representative:
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Patent and Priority Information (Country, Number, Date):
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  Application: WO 2001US24932 20010808 (PCT/WO US2001024932)
  Priority Application: US 2000638457 20000814
Designated States:
(Protection type is "patent" unless otherwise stated - for applications
prior to 2004)
  AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ
  EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS
  LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ
  TM TR TT TZ UA UG US UZ VN YU ZA ZW
(All protection types applied unless otherwise stated - for applications
2004+)
  AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ
  EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS
  LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ
  TM TR TT TZ UA UG US UZ VN YU ZA ZW

English Abstract
    ...applied to a soft drink bottle caps program. A soft drink company is
    sponsoring a **promotions** program where certain bottle caps are worth so
    many points. A consumer buys a soft...

French Abstract
    ...boissons non alcoolisees. Une compagnie qui fabrique des boissons non
    alcoolisees sponsorise un programme de **promotion** selon lequel certaines
    capsules de bouteilles valent un certain nombre de points. Un
    consommateur achete...

Detailed Description
... can earn points online, for example, by purchasing goods from an
online merchant, clicking on **advertisements** , filling out registrations
and surveys, and performing various other activities of interest to
merchants, advertisers...may be motivated to take some action (e.g.,
purchasing a product, clicking on an **ad** , registering with a website) to
earn enough points so that he may redeem them and...home page or some web
portal (e.g., Yahoo) that is sponsoring the bottle cap- **promotion**
program. The user would register himself with the website, if he has not
done so...can be earned in many ways, such as purchasing a
product/service, clicking through an **advertisement** , or registering with
a merchant. Other ways of earning points are described further below. The
...that today is December 5, 1999. The user earns 10 points by clicking
on an **ad** on Yahoo!'s website. Bucket B4 represents this quarter. Bucket
B5 represents the next quarter...

...number of ways, such as by registration, by purchase of product/service,
and by viewing **advertisements** . The consumer is not necessarily required
to visit the Yahoo! site to earn points; rather...day to day) are of
course possible.
Points can also be earned by viewing an **advertisement** . For example, a
merchant places an **ad** in a website, preferably a high traffic site such
as Yahoo's Internet portal. Through various means, the **ad** attracts the
eye of the consumer. By clicking on the **ad** , the consumer's browser
retrieves another web page which gives the consumer more information
about the product/service/merchant info that was the focus of the **ad** .

15
The **ad** may initially indicate that the consumer may earn a certain
number of incentive award points by clicking on the **ad** . Alternatively,
the **ad** may require the consumer to jump through some hoops first before
the points are actually delivered. By clicking on the **ad** and following

any additional instructions, the merchant awards the promised number of points to the...merchandise or certain ways of earning points. For example, points earned by clicking on an **ad** expire in one year, but points earned by registration do not expire at all.

Another...

...disputed charges. This policy will not apply to some earned points such as " click-thru" **ads** , promotional trial memberships, and registrations. Certain awards can be checked to make sure that they...

...credited more than the requisite number of times for the same action. Thus, a banner **ad** , which offers one-time-only points for clicking on the **ad** , may appear on a website for all to see. If a user clicks on that **ad** , he will earn his points. When he returns to that website, he will see that **ad** again. By click on the **ad** again, he should not be awarded points again since he earned them once already and this is a one-time-only **promotion** . Cookies may be used for this purpose. However, other embodiments will check the user's...200. At step 201, the user performs some point-actionable event such as viewing an **advertisement** , purchasing a product, or registering with a website.

Of course, not all of these events...unique OfferID is associated with a given event. Let's say that clicking on an **ad** is an event which triggers the point issuance. This particular event is associated with the

...

...regardless of the users who click on it. Even if multiple users click on this **ad** , the same OfferID is associated with this action for all the users. Similarly, if the same user clicks on the **ad** multiple times, the same OfferID will associated with this action.
The database server 136 then...

...serve as a precautionary step. Sometimes, a promotional award may have expired but the award **advertisement** may still be inadvertently left on the website. Other times, the merchant may have prematurely discontinued an award but the award **advertisement** may still be on a website. If the award is not valid at step 208...

...purchase, properly filling out a registration (with all required fields completed), and properly viewing the **advertisement** (a mere click-through may not be enough in some cases). If the award restrictions

...

...schedule "win," "lose," and "ineligible" strings, which are the HTML strings served into pages like **ads** . However, these strings are exemplary. Other strings for different **scenarios** can be **created** . For example, Yahoo! can serve **ads** that are dependent on the number of points a user has accumulated so far. So, a user with 1000 points can get a particular **ad** . Yahoo! can also serve **ads** that are dependent on how close the user's accumulated points are to their expiration...

...500 points are about to expire in the next week, Yahoo! will show a particular **ad** .

Moreover, the offer editor provides for the entry of point budgets. To

test ...not be adjusted since the top bidders pay for the items at their respective bid **prices** .

7.0 **AUTOMATED** CLOSING

In one embodiment of the present invention, the auction closes automatically after the expiration...also be able buy points from Yahoo! so that they can use them on banner **ads** or simply award them to selected consumers. When users click on an **ad** , the click is linked back to the **ad** server which keeps track of the various points from various campaigns, whether Yahoo-related or...

...other than Yahoo's website and distribute points to consumers from other point programs. The **ad** server will then be able to provide a report to the advertiser who can then...

...the 100,000 points in their website through some sort of sweepstakes or click-through **ads** .

In a further embodiment, Yahoo! may permit the creation of a secondary market for points...to a particular soft drink bottle caps program. A soft drink company is sponsoring a **promotions** program where certain bottle caps are worth so many points. A consumer buys a soft...and accessed via the Internet.

The incentive points database 305 contains various incentive points banner **ads** and programs.

Additionally, the prerequisites for earning these incentive points are also stored therein. Similarly...

...can be properly redirected to that website. In another embodiment, these databases do not contain **ads** , programs, coupons or information; rather, these databases contain only links where the user can be...
?

15/3,K/1 (Item 1 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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01588575
SYSTEMS AND METHODS FOR PRICE SETTING AND TRIANGULATION
SYSTEMES ET PROCEDES DE FIXATION ET DE VALIDATION DE PRIX
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Patent Applicant/Inventor:
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  US
Patent and Priority Information (Country, Number, Date):
  Patent: WO 2007133748 A2 20071122 (WO 07133748)
  Application: WO 2007US11571 20070515 (PCT/WO US2007011571)
  Priority Application: US 2006800640 20060515; US 2006825902 20060916
Designated States:

(All protection types applied unless otherwise stated - for applications
2004+)
· AE AG AL AM AT AU AZ BA BB BG BH BR BW BY BZ CA CH CN CO CR CU CZ DE DK
DM DZ EC EE EG ES FI GB GD GE GH GM GT HN HR HU ID IL IN IS JP KE KG KM
KN KP KR KZ LA LC LK LR LS LT LU LY MA MD ME MG MK MN MW MX MY MZ NA NG
NI NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SK SL SM SV SY TJ TM TN TR
TT TZ UA UG US UZ VC VN ZA ZM ZW
(EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LT LU LV MC MT
NL PL PT RO SE SI SK TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
(AP) BW GH GM KE LS MW MZ NA SD SL SZ TZ UG ZM ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: English
Filing Language: English
Fulltext Word Count: 8785

Fulltext Availability:
  Detailed Description

Detailed Description
... suggestions were not competitive and too costly to generate.

[0009] With the advent of computers, **automated pricing** became a
reality.

However, such pricing schemes often did not have the desired level of...
...may be enabled to provide "what if scenarios to the user. In these
circumstances, possible **scenarios** may be input into **Planner** 111. Then
Manager 113 may provide likely results of these possible scenarios. In
this way...price adjustments are set.

At step 1233 competitive price adjustments are set. At step 1234
promotion prices are set. Again, these values may be set by automated
means by utilizing output...

...channel margins are set. At step 1333 channel incentives are set. At
step 1334 channel **promotions** are set. Again, these values may be set by
automated means by utilizing output from...

...1935. Pricing components found in Channel Pricing 1950 include
Introductory Stock Price 1951 and Distributor **Promotions** 1952.

[0089] Figure 20 shows a Worksheet Interface 2000 implementing the price
setting and optimization...

15/3,K/2   (Item 2 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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01537571
GENIUS ADAPTIVE DESIGN
MODELE D'ADAPTATION AU GENIE
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  CABINALLA Linda, 1145 Delaware St, Fairfield, CA 94533, US, US
    (Residence), US (Nationality), (Designated for all)

Fulltext Availability:
  Detailed Description

Detailed Description
... what they want. Establishing my consistency in not putting up with
  fraudulent practices had a ' **predicted** benefit in having fewer conflicts
  (infringements). . Making our business and other services more
  'accessible via...Q = know 'W5 questions to ask ROUTE / ROUTER = direct
  prospective clients to the services we ' **predict** they need; or even to
  other organizations based on their behavior profile. S&R / SEEK...

...and/or clients 'seek and 'react to each other. SYNTH = which voice
  tonalities 'W5 had ' **predictable** 'reactions in listeners/users. T / TEL
  = business incubator phone system features recommended by OBCAI TGH...
...B and C, or which have those letters in their product numbers, e.g.
  "2A400". **Ad** or Adv: advertising ASAP: As Soon As Possible Cat: product
  category, eg: tv; tel CIS...lines or channels, . Alternatives & Keywords
  for ANALYZER feature: assay, chew over (slang), confab (slang), consider,
  estimate , evaluate, figure, figure out, hash (slang), inspect,
  interpret, investigate, judge, kick around (slang), rehash, resolve...
  file "Introductory Notes-Less Important" for help in reading this file.
  ACCESS = Gain access to **electronic** product's controls with a correctly
  keyed in combination.-kw: access*, computer*, entry, (gain* or...

...ps / ps-zone / track / ba. . Improvement on US Patent: 5377258 Method
  and apparatus for an **automated** and interactive behavioral guidance
  system: u receives motivational messages (osc) to improve behavioral
  patterns; includes...

...tds *tilt *track uip vibration va *zone SOUND ANALYZER = analyzer ba
  interactive k locator *nr **predict** score seek&react sensor status STATUS
  = analyzer bill score sensor tds *uip *zone SW (Software...

...about user to better serve them.-UIP-T (Telephony): [People kept on telephone hold hear **advertisement** and other informative recordings (according to caller's UIP profile (their caller ID = database(s...

...entertainment); dial into your mother/lover.-They can also be produced cheaply and given as **promotion** .-For people shopping for new phones, let them buy the instrument which comes with a...

...psychologically arousing effect Makes listeners feel: happy, or sexual, or excited, meditative and relaxed, soothed, **advertisement** , humor (laughter can replace beep), animal sound replace beep (maybe record your own animal), and...selecting from option in menu; PP; UIP-ap: good for music education; useful in my **computerized** musical instructor product too; teaches people how to be more polite (on or off tel...

...their: address, how their tel number is listed with th

e tel company / tel book, **advertisement** by-lines and or descriptions about the other party (as provided via UIP); ENTERTAIN:; FS...

...buyers without inundating them with material they're not likely to buy resulting in excessive **advertisement** exposure of their brand names and wasted costs; and buyers begin to see such brand...

...sound analyzer" also helps in analyzing caller's behavior to some degree, and this can **ad** to the UIP's databank of info. r o 6B-020 Caller ID Screener: Unwanted...Applications: W5 of the company's current activities, which can also be used to better **forecast** , and make any needed changes. Catching illegitimate users of long distance calls (system can alert...

...8212;develops personality profile in C; what user "uk" = C. %-o-Cl 12 . Computer ("C") **predicts** human error. Input UIP (working conditions of person). System **predicts** errors they're likely to make. 30 Sept 92 YD.-Sends warning via "tel". D...would be needed to handle the applicable tasks called for. . For Techies: Forms of Analysis: **estimate** , ' **predict** , figure out, inspect, interpret, investigate, judge, resolve, scrutinize, %test, think through [the menu options], dissect...

...It can be software and or an automatic license. For Tech ies: Any of our **electronic** invention numbers / functions are [also] [un]pluggable. Connect/unconnected/activate an invention as needed. 'Cartridges...

...s character, feature, disposition, unique ['mood, 'editing, form of 'education or 'guidance. CLAP * = Clapper. Activate **electronic** features by your making sounds. Each combination of sounds from hand claps or verbal sounds...

...of the invention's many benefits. GAME —Common definition of game. Videogames. Arcade, computer, **electronic** , mobile and wireless gaming. 5 Also potentially playable on [mobile and wireless] computers, Nintendo™...

...and 'scored for the likelihood of its occurrence (as in steps 2). Step 6] each **prediction** is 'scored for likelihood. Step 7] **prediction** may opt to use the prediction(s) with highest 'score(s). 8] Designated functions are...

...anticipated, better enabling designer of (kn) system to make their
system respond to or handle **predicted** situations. PR / PROGRAM =
Program: User and or manufacturer program the product's computer
software. PS...ANALYZER" // "UIP" // "UIP=DB" // "W5". 5515270
Technique for correlating purchasing behavior of a consumer to
advertisements : . How functions described in abstract of patent are
replaced with KN (invention) Features:-buyer behavior can be replaced
with: how accessor functions in other manners described- **advertisements**
and **promotions** consumer has been exposed to can be replaced with:
"promts"; "hints"; "guidance"%; material accessor was...

...analyze*: uip-db; "analyze"-cash register: "billing"-consumer* inserts
this record: "cart" / password / uip-db- **promotion** type classified: ba
('behavior analyzer) of **advertisement** ; organized by subject;
uip-db-only portion fo collected data needs to be analyzed: portions...

15/3,K/3   (Item 3 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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01482280
ENERGY AND CHEMICAL SPECIES UTILITY MANAGEMENT SYSTEM
SYSTEME DE GESTION DE SERVICES, D'ESPECES CHIMIQUES ET D'ENERGIE
Patent Applicant/Assignee:
  LIGHTRIDGE RESOURCES LLC, 1111 N. Loop West, Suite 200, Houston, TX 77008
  , US, US (Residence), US (Nationality), (For all designated states
  except: US)
Patent Applicant/Inventor:
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  (Residence), US (Nationality),
  KRITZINGER Johan A, 1111 N. Loop West, Suite 200, Houston, TX 77008, US,
  US (Residence), ZA (Nationality),
  ALLAN Peter, 1111 N. Loop West, Suite 200, Houston, TX 77008, US, US
  (Residence), US (Nationality),
  ELLISON Brent, 1111 N. Loop West, Suite 200, Houston, TX 77008, US, US
  (Residence), US (Nationality),
  KHATER Ajay, 13510 Perthshire Rd., Houston, TX 77079, US, US (Residence),
  US (Nationality),
Legal Representative:
  KNOBLOCH Charles S et al (agent), ARNOLD & FERRERA, L.L.P., 2401 Fountain
  View, Dr., Suite 630, Houston, TX 77057, US
Patent and Priority Information (Country, Number, Date):
  Patent: WO 200728158 A2-A3 20070308 (WO 0728158)
  Application: WO 2006US34565 20060905 (PCT/WO US2006034565)
  Priority Application: US 2005714038 20050902
Designated States:
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2004+)
  AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM
  DZ EC EE EG ES FI GB GD GE GH GM HN HR HU ID IL IN IS JP KE KG KM KN KP
  KR KZ LA LC LK LR LS LT LU LV LY MA MD MG MK MN MW MX MY MZ NA NG NI NO
  NZ OM PG PH PL PT RO RS RU SC SD SE SG SK SL SM SV SY TJ TM TN TR TT TZ
  UA UG US UZ VC VN ZA ZM ZW
  (EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LT LU LV MC NL
  PL PT RO SE SI SK TR

(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
(AP) BW GH GM KE LS MW MZ NA SD SL SZ TZ UG ZM ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: English
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Fulltext Word Count: 175987

Fulltext Availability:
 Detailed Description

Detailed Description
... management--agreements/constraints nkde [PE-Adv 1Tier J 1 Second tier
oo Oierator L PE. **Ad**] I Insight and advice for V 1 Tier dispatch-to
plant---personnel-3rd tier VirtUal...JILH

I L
il
J 1111 ri!iE+

ttl;ii 1(r*(`
                         eI engine structure- **scenarios** I
optimizer Model engine-forward looking **scenarios** I optimizer (CI)
OpWtht C.opIS, * */**4. T* mId*.

F. FOpIt(U*S(SSJ& nffd...

...curve shift Cn hndi, ImUy&opaaun9 ond.pe,idgni 3pndeOs n. head in Load,
spoad **ad** 0050. of onmpoaesoo Model types Cofibraha anYbol one no onto
o,YorW aM 0 Fundamental...
...aqUandngOoooghtheIndio4doajilked sCiam models.

*Tho Rho ston diKe, this Iewtotopdnilaadon.

Cost models approach enldtsnaoddpi.aithiersad.

-. WFaadhomn5mesotondmatnoIni. **ad** . neenvimse.

bnnd0i-Gas and power cost no0deM50dstla50inld50R.icwe0horneeiKeb0wr ton,
oalnofahona Consumption Pred!clions aMes minaansnaMes...

...Where will PC's be located? Process Process PE-Advisor PE-Advisor
Secondary Operator Interaction **plans** ? Historian Historian Secondary
Secondary Client PC Publishing of results-decide later Client PC Client
PC...

...level Server ST depository PEA: [?x) PE-Advisor-System status
Confidential-Light ridge &li ces & **Scenarios** Business **Plan** framework

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Introduction
Executive summary

The organization

Business I Functional description

Management & ownership...

...factors Barriers to market entry Marketing strategies Sales strategy
Pricing strategy Advertising, public relations and **promotion** Site
Analysis Service forecasts Operational plans Technical and engineering
plans

Income statement

Balance sheet Space...global or total site economic centric perspective.
It provides on-line historical, real-time and **predictive** results in
automated as well as user driven scenarios-capable modes, all in one
system and in a...business objectives, so operational decisions can be
taken. Our bottom line is that generators must **plan** for increased
investments in real-time analytics and decision support systems to
maximize economic value...
...V V LightRidge's target market is 221 complex chemical and petrochemical
process sites. LightRidge **estimates** that it will implement its software
and solution at 16 sites by year-end 2009...1.8 Hardware Interfaces 13
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15/3,K/4   (Item 4 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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01389348   **Image available**
A METHOD AND A DEVICE FOR LOCALIZING A SOUND SOURCE AND PERFORMING
A
  RELATED ACTION
PROCEDE ET DISPOSITIF PERMETTANT DE LOCALISER UNE SOURCE SONORE ET
  D'EFFECTUER UNE ACTION ASSOCIEE
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ZW
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 Detailed Description
 Claims

Detailed Description
... or multipart devices containing the transducers. Terminals having only
 a single microphone can form an **ad** hoc array. In this case, proximity
 detection and time delay estimation or clock synchronization between...

...3) static arbitrary multi microphone array of N microphones
 4) dynamic arbitrary multi-microphone array (**ad** hoc array comprised of
 multiple devices, proximity detection between devices required)
 Principles of binaural localization...

...small. Room effect generally makes accurate location detection much more
 difficult than in the nearfield **scenario** . Incoming wave fronts are
 planar , which complicates localization in its turn.

Instead of utilizing only one microphone array, several arrays...

Claim
... 1 5 15. The method of any of claims 1-14, wherein orientation of the
 electronic device is **estimated** preferably by utilizing a magnetometer
 or a gyro.

16 The use of method of any...

 15/3,K/5   (Item 5 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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01018906   **Image available**
BUSINESS PLANNER
PLANIFICATEUR COMMERCIAL
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Fulltext Availability:
Detailed Description
Claims
English Abstract
A system and method for predicting the profit attribute to a proposed
sales **promotion** and to select one optimal, most profitable **promotion**
from a plurality of sales **promotions** (46) by using point-of-sale
information (76) in a lift model (4) net of...

French Abstract
...procede et sur un systeme permettant de predire le profit pouvant etre
attribue a la **promotion** d'un produit, ledit produit ayant un prix de
vente en gros et un cout...

...a etablir un volume de base pour les ventes du produit en l'absence de
promotions , determiner une montee des ventes pour la pluralite des
promotions uniques et mettre en correlation la montee des ventes avec
les informations sur les **promotions** pour obtenir un modele de montee

des ventes. Le procede et le systeme consistent egalement a proposer une
promotion pour predire les ventes du produit , appliquer le modele de
montee des ventes a la **promotion** proposee pour predire les ventes du
produit sur la duree de la **promotion** et calculer le profit du fabricant
sur la base des ventes predites, le cout par vente unitaire de la
promotion , le prix de vente en gros et le cout de fabrication par vente
unitaire pendant la duree de la **promotion** .

Detailed Description
... or region they supervise. Experience may be a guide as to the impact a

particular **promotion** may have on product sales, ...SUMMARY OF THE INVENTION

Accurate models, however, have not been available for evaluating multiple proposed **promotion** plans in terms of sales increase and profitability. In fact, promotional plans in many cases...

...due, in part, to the lack of useful tools for planning and assessing profitability of **promotions** .

Salespersons do not have access to a planning ...scenarios, or that allows retailers to understand the impact on sales and profits of the **promotions** being considered. There has been a long-standing 2 5 need for a reliable means for estimating the return on investment (ROi) for a **promotion** such as a coupon campaign or a two-for-one sale. There has also been...

...to production plans and/or marketing objectives of the manufacturer. An integrated system of tying **promotion** plans and predicted sales.

results from multiple regions or markets to ...the past. Further, there has been a need for a system that may integrate widespread **promotion** and production plans, particularly on an international level, to ensure that business plans effectively fulfill...

...developed to allow sales staff and, optionally, retail personnel at multiple locations to plan sales **promotions** for specific 3 5 products in a manner that may be tied to manufacturer production to the **promotions** . The system optionally includes an estimation of profit to both manufacturer and retailer. The business...

...staff and their retail associates. The business planner system may also link and integrate planned **promotions** from multiple sites to production plans of the manufacturer, so that planned production may be in line with projected increases in sales, or so that **promotion** plans may be iteratively adjusted to comply with marketing objectives or production plans, including production...invention includes a method and system for predicting the profit attributable to a proposed sales **promotion** of a product, wherein the product has a wholesale price and a manufacturing cost per...

...sales, including establishing a base volume for sales of the product in the absence of **promotions** ; determining a sales lift for the plurality of single **promotions** ; and correlating 1 5 the sales lift with **promotion** information (e.g., the **promotion** type and discount value) to provide a sales lift model. The method and system also include proposing a **promotion** having a cost per unit sales for a **promotion** time period and having a planned sale price for the product; applying the sales lift model to the proposed **promotion** to predict sales of the product for the **promotion** time period; and calculating manufacturer profit based upon 2 0 the product's predicted sales, cost per unit sales for **promotion** , wholesale price, and manufacturing cost per unit sales during the **promotion** time period.

Other objects and advantages of the present invention will become more apparent to...of the business planner system of Fig. 1.

Fig. 4 is a flowchart illustrating several **promotion** and production

planning features of the business planning system of Fig. 1.

Fig. 5 is...

...planning 3 5 system of Fig. 1.

2

Fig. 6 is a flowchart illustrating several **promotion** planning features of the business planning system of Fig. 1.

Fig. 7 is a schematic...time.
As used herein, "lift" refers to the increase in sales volume caused by a **promotion** .

For example, a temporary price reduction of 10% ...product category for a specific customer (or group of customers), apparently caused by a product **promotion** , obtained by correlation of past sales performance in light of contemporary **promotions** and base volume, or by any other suitable technique.

2 5 As used herein, " **promotion** " refers to a temporary action taken to increase consumer sales of a product during the time period in which the **promotion** is offered. Any type of **promotion** may be considered. Examples of well-known **promotion** types include the following.

1. A Temporary Price Reduction (TPR), wherein a retailer offers a...

...reduced price.

2. Rewards for multiple purchases, such as a "buy two, get one free" **promotion** .

3. Commercial advertising, especially at an increased level relative to normal practice to cause a 5 combination with any other **promotion** , and may be in any suitable medium. This **promotion** includes other suitable **promotion** methods, or combinations thereof.

3

Advertising may be in any known medium, such as print, billboards, Internet **ads** , television, radio, and the like.

4. Special merchandise treatments by using various display types such as power walls, gondola ends, and floor stacks.

5. Loyalty card **promotions** , including smart card transactions, wherein the purchaser receives a discount when the product is purchased and a loyalty card is used.

6. Coupon **promotions** offering consumers cents off for single or multiple purchases with presentation of ...wherein the purchaser of a product is eligible to win a prize, including instant winner **promotions** wherein a hidden message on or in the product that is revealed after purchase indicates...or shortly after purchase of the product.

1 0. Media, sampling, coupon, or other broadcast **promotions** that encourage the consumer to purchase products in addition to discounts and

merchandising offered by retailers. In this case, the base volume for the product in the **promotion** period may be increased beyond the additional incremental lift caused by retailer based **promotions** .

The **promotion** information pertaining to a particular **promotion** type may include the **promotion** type, the level of discount or other quantified measure of the offered incentive (e.g...customer for a sweepstakes, approximate cash value of non-cash incentives, etc.), cost of the **promotion** (e.g., cost per capita or cost per consumer of advertising, cost of retailer fees...

...like. Such information can be used to correlate past sales performance for a product to **promotion** activity. In correlations or other analyses performed on the **promotion** information, the **promotion** information can be treated at any desired level of detail. For example, past **promotions** of a single type but with varying discount levels may be treated separately or grouped together.

As used herein, " **promotion** time period" refers to the time that a **promotion** is in effect to the consumer. During this period some type of pricing discount, new...
...incentive, or merchandising activity must exist to generate incremental consumer demand for the product. The **promotion** time period may range 4
from one day to eight weeks or longer. Longer time periods may be handled, if desired, through the use of back-to-back **promotion** periods.

As used herein, "planning interval" refers to a period of time over which business and **promotion** plans are made and ...market site 1 0 that occurs or would occur in the absence of short-term **promotions** . Base volume may increase or decrease over time due to ...be estimated with fair accuracy using point-of-sale scanner data for periods free of **promotions** , but scanner data is not always available or affordable. There is a need to estimate...

...manual estimates obtained from plots of shipped volume over time, in which peaks corresponding to **promotions** are at least ...Obtaining shipping data over time;
b) Normalizing the data;
c) Truncating large peaks associated with **promotions** ;
d) Filtering or smoothing the data, preferably with a dynamic linear model (or Kalman filter...risk of the predictiori to achieve a specified acceptable level of error.
As used herein, " **promotion** cross effects and drop off" is the activity of reducing 1 0 base volume on related products or on the same product after the **promotion** has ended to reflect consumer switching during **promotion** periods and household pantry loading when **promotions** offer significant short term incentives that cause such consumer behaviors.

For example, a consumer may not need to purchase a product immediately following a **promotion** because that person took advantage of the **promotion** and purchased more 1 5 than was required during the **promotion**

As used herein, "product" refers to any article that can be marketed and sold, and...permits prediction of the effects likely to be realized by a

planned or prophetically considered **promotion** for one or more products
or product classes in one 5 or more markets and...staff member to
experiment with a variety of scenarios to determine the benefits of
alternate **promotions**. A user may access the business planner system or
needed manufacturer databases using a Web...a geographical region or a
particular chain of stores. Sales staff in the division develop
promotion plans 2 for a given time period, such as a three- or sixmonth
interval.
Proposed **promotions** are entered into a computer program that runs a
lift model 4 for the products...

...of concern in the division. Prediction of increased sales, or sales
lift, due to a **promotion.** is achieved using mathematical models for
market response to a set of **promotion** conditions, with a plurality of
promotion types being available in the model. The models may be derived
from correlations of point-of-sale (POS) data with past **promotions** and,
in some embodiments, may be updated continuously as POS data is obtained
for each **promotion**. Information Resources, Inc. (IRI) (Chicago,
Illinois) and A.

C. Nielsen (Stamford, Connecticut) are examples of...Services, Inc.)
(Deerfield, Illinois). This tool uses historical databases of sales for a
variety of **promotion** conditions at specific retailers and applies a
67-variable regression model to predict how a planned **promotion**
8
will affect sales in a particular store. The tool is described by Lee G.
Cooper et al. in "PromoCaStTM: A New Forecasting Method for **Promotion**
Planning," Marketing Science, Vol. 18, No. 3, 1999, pp. 301-16,
incorporated herein by reference...the product in question to see if the
sales expected to occur in light of **promotion** 1 0 plans are aligned 14
with corporate plans and objectives. If the predicted results are in
alignment, then the **promotion** may proceed to completion 16. If the
predicted results are not in alignment, then a decision 18 is made
whether to modify the **promotion** plans or operation plans, with
consideration of marketing objectives 1.0. Adjustments to the **promotion**
or operation plans 2 are then made, as appropriate, and the modified
plans are 1...are shown for three regions 20, 22, and 24, Sales staff in
each region develop **promotion** plans for a given time period, such as a
three- or six-month interval. For example, sales staff in 2 5 Region I
may propose a direct mail coupon **promotion** offering 50 cents ...
propose a 60 cent price reduction for loyalty card users of a single
retailer. Proposed **promotions** from each of the sales staff 3 0 groups
are supplied over a network to the manufacturer, and specifically to a
server owned or controlled by the manufacturer, where the **promotions**
are integrated 26, or rolled up, to provide the manufacturer ...the
product, and more specifically about 90% of the total sales of the
product.

The **promotions** for each region are linked to the sales lift model 4,
allowing model predictions 6...volume may be estimated from consumer
sales data in the time period immediately preceding a **promotion**. For
longer periods of time such as those, for example, greater than a month,
2...14 with marketing objectives 1 0, manufacturing capacity 12, or other
constraints or objectives, the **promotion**
1 0
may proceed to completion 16. If the predicted sales and profit levels 6

...one or more of the sales regions will be asked to increase the level of **promotion** to increase sales, such as by offering a higher discount or by increasing advertising. The...to bring the integrated plans 0 in alignment with corporate objectives. One or more new **promotions** will then be planned and considered in the sales lift model to bring predicted sales...

...or in manufacturing plans.

5 In any case, the sales lift model 4, and integrating **promotion** plans from multiple regions 26, allow the manufacturer to predict future sales and profits and to bring **promotions** and marketing objectives into alignment in an interactive manner. As shown in Fig. 3, sales staff members 44 propose **promotions** 46 that are adjusted to meet marketing objectives IO..Proposed **promotions** 46 are analyzed with predictive models 48 0 such as the sales lift model to...

...the benefit to retailer 50 and obtain their approval or support 52 for the proposed **promotions** 46, which are then implemented 54.

Sales data during **promotions** may also be used to continuously improve the sales lift models by correlating actual sales lift with details of the **promotions** being run.

5 Demographics of the store and region may also be considered in the... input from the retailer.

It is possible for a retailer or vendor to input certain **promotion** parameters such as volume expectations, profit limits, etc., and allow the business **planner** system 1 to generate **promotion** **scenarios** that meet these requirements using models and possible **promotion** conditions. In this case, the retailer or vendor may then select a scenario and apply

...

...sales lift, for example) is provided as input, followed by a computer-assisted search for **promotion** conditions that may yield ...0 conditions, such as combinations of sales price discount, retailer payout to the customer, coupon **promotions** , etc., may achieve the targets. The software may then identify the parameter space capable of...
...for further examination, or request additional restraints on the solutions, such as the type of **promotion** , the maximum discount allowed, etc.

1 5 In another embodiment, the business planner system 1...dynamic variable depending on business objectives, predicted demand, and product cost. Thus, predictions about future **promotions** may take into account available information from a plurality of sources that will affect future ...is offered at a lower-than-normal price by 3 0 the manufacturer during a **promotion** , allowing them to sell the stockpiled product at the normal price after the **promotion** , thus making additional ...and extrapolates to estimate the forward buying actions of the customer for a given planned **promotion** . The business
1 2
planner system 1 may then include the anticipated cost of forward buying for a particular customer into the net costs to the manufacturer of the **promotion** . If desired, this information may then be applied by the

manufacturer to negotiate a favorable...

...consumer demand or manufacturer profit.

For example, the manufacturer may offer an additional or extended
promotion or additional pay out to the vendor.

1 0 The business ...The roles of the business planner system 1 in the
successful scheduling of 3 5 **promotions** and production levels are shown
in Fig. 4. The business planner system 1 is used...with a Web browser or
custom software. The selected scenarios are used to create a **promotion**
plan for the manufacturer, shown here as a six-month **promotion** plan 64,
and may be integrated with the retailer **promotion** calendar 66 of each
respective retailer. The event scenario 56 may 1 0 also be aligned with
other aspects of the retailer **promotion** calendar 66. For example, if
the retailer is planning a major **promotion** of a competitive product
during one time period, the manufacturer may need to adjust the timing of
a planned **promotion** accordingly. Also, it may not be in the best
interest of a retailer to participate in two competitive **promotions** at
the same time. iterative planning may be needed to plan **promotions** that
align with the needs and plans of the retailers as well as the
manufacturer. In one embodiment, the business planner system 1 includes
calendaring modules that allow integrated **promotion** plans to be
graphically ...aspect of the continuously refinable and interactive
nature of the sales lift models 4. As **promotions** are proposed 68 by the
vendor 70 and a retailer 2 0 50, and implemented...
...then be used to calculate actual sales lift, which may then be
correlated with the **promotion** to further refine the lift model or
models 78 used to predict the outcome of **promotions** 74. Future
predictions are thus 2 5 enhanced by regular analysis of POS data 76...

...business planner system 1 may also include means for tracking, managing,
and allocating funds for **promotions** . Promotional plans and calendars
from multiple retailers 80, 82, and 84 may be entered by the respective
sales staff 44 in modules of the business planner to create an integrated
promotions calendar 3 0 86 on a central server hosting the centralized
business planner software 88 of costs and profits 90 to be made. The
projected costs for the planned **promotions** may then be reviewed by
management and approved 92 or iteratively revised (not shown). For...the
total funds required. If the required funds are excessive, directives to
modify the planned **promotions** may be issued to the sales
representatives. Otherwise, the plans may be approved and funds allocated
94 for the **promotions** . As the actual costs accumulate either by paying
bills or through off-invoice allowances, the...

...costs may be used for plan evaluation to improve the return on
investment for successive **promotions** . For example, formulas predicting
the cost of a **promotion** may be updated based on the actual costs of a
promotion for better planning in the future.

1 0 The system may also provide a means...

...used with shelf-space management systems, such as the MARKETMAX-brand
Planogram Manager, whereby planned **promotions** also include information
pertaining to adjustments in shelf-space arrangements during the
promotion .

1 5 Numerous computer models for allocation of shelf-space and estimation of the economic...consider the effect of shelf-space allocation on the projected sales, including during an active **promotion** or in the calculation of baselines.

2 0 Exemplary models include that of Timothy L...the details of the shelf-space handling of the product and related products during a **promotion** or during other times as well. Cross-elasticity may also be included the model, as...1 uses cross elasticity factors to predict not only how a price reduction or other **promotion** will increase sales of the promoted product, but how it will affect sales of other...customer, but the manufacturer of the product being promoted benefits from knowledge of how the **promotion** will affect the total bottom line for the retailer, including increased sales of other products...of-sales database) can be mined by any suitable data mining method for relationships between **promotions** and products, including cross-elasticity factors, sales lift as a function of market segment (demographic factors, etc.), impact of competitive **promotions** on vendor 1 0 **promotions**, and other factors that may not be readily apparent after human scrutiny of the data...purchased.

5 The business planner system 1 may also include models to predict how a **promotion** expands short-run and long-run category demand, which may be based on WO 03...

...from these VARX models provide estimates of the short- and long-term effects of price **promotions** on category demand. These estimates, in turn, are used as dependent variables in a series...Results are given in the form of empirical generalizations on the main effects of price **promotions** on category demand in the short and the long run and through statistical tests on...

...competition. The findings generate an overall picture of the power and limitations of consumer price **promotions** in expanding category demand. Nijs et al. report that category demand is predominantly stationary, either...

...fixed mean or a deterministic trend. Although the total net short-term effects of price **promotions** are generally ...frequently associated with a permanent category demand increase. Thus, a model that relates demand to **promotions** may include factors that depend upon the nature of the product, such as a new of tailored relationships between **promotion** and demand that depend on the nature of the product.

The impact of advertising on...Consumer demand based on scan data and sales forecasts, including business planner system forecasts for **promotions**, may drive warehouse replenishment orders and shipping.

Fig. 7 shows one embodiment of a computer...price information, access to terms of contracts and other agreements, :3 5 details of past **promotions**, and plans for future **promotions** or product launches. Both historical information and forecasts may be provided regarding sales, shipment 20 schedules, **promotions**, profitability, and so forth. Information about **promotions** and the information required to ...to a particular product,

product category, retailer, or collection of retailers. Programs for integrating planned **promotions** for a plurality of retailers and/or for a plurality of products may be hosted...other factors to the operations server 198, and may access information regarding sales lift or **promotions** from the business planner server 204.

Using the retailer's computer systems 180 with access...

...1, the logged-in user may then enter various scenarios to determine how a proposed **promotion** may affect sales and profitability, or may explore cross-eiasticity effects, for example. A scenario...information accessible to sales personnel 156, who may be able to examine the effect of **promotions** for a plurality of retailers 154 ...projected sales volume with supply chain systems is useful in ensuring the success of planned **promotions**, integrating production plans with marketing plans and combined sales staff activities. Use of the business...

...1 allows sales staff in the field to understand the financial impact of their planned **promotions**, and to intelligently select from a plurality of **promotion** options based on the predicted returns.

Further, sales staff may be provided with a tool to run multiple "what if" scenarios to show the financial returns to retailers for proposed **promotions**. Thus, for the first time, sales staffs are given tools to predict the financial impact of a planned **promotion** on both the manufacturer and the retailer, and the tools to carry out the planned **promotion** in a 2 0 manner that corresponds to corporate production and marketing plans and objectives...profit-prediction tools may allow the manufacturer to maximize the return on funds allocated for **promotions**. A given **promotion** budget may be allocated between markets or geographical regions in a manner that optimizes profits, and a given quantity of funds for **promotions** in a given region or market may be optimized for maximum profits.

3 0 While...

Claim
1 . A method for predicting the profit attributable to a proposed sales **promotion** of a product, wherein the product has a wholesale price and a manufacturing cost per...

...method comprising:
establishing a base volume for sales of the product in the absence of **promotions** ;
determining a sales lift for a plurality of single **promotions** ;
correlating the sales lift with **promotion** information to provide a sales lift model; proposing a **promotion** having a cost per unit sales for a **promotion** time period and
having a planned sale price for the product;
applying the sales lift model to the proposed **promotion** to predict sales of the
product for the **promotion** time period;
calculating manufacturer profit based upon the product's predicted sales, cost per unit sales for **promotion**, wholesale price., and manufacturing cost per unit sales during the **promotion** time period.

2 The method of claim 1, wherein the **promotion** is selected from the group consisting of a temporary price reduction, a distributed coupon campaign, an in-store coupon campaign, a loyalty card **promotion** , a rebate, and an advertised price reduction.
2 0

3 The method of claim 1, wherein the **promotion** is selected from the group consisting of ...establishing act includes analyzing pointof-sale data from at least one time period lacking a **promotion** .
3 0

6 The method of claim 1, wherein the establishing act includes analyzing product...optionally normalizing the time series;
optionally truncating large peaks in the time series associated with **promotions** ; applying a numerical tool to the time series selected from a dynamic linear model
or to predict base volume for the **promotion** time period. 1 0. The method of claim 1 further comprising modeling cross elasticity between...

...product or a related product category during a time period including a plurality of single **promotions** .

14 A method of integrating vendor forecasts for a sales volume and ...
levels of the product during the future time period;
25
providing data integration means to **electronically** receive **forecasts** of sales of the product from the plurality of distributors and to integrate the forecasts ...product from the plurality of distributors using a sales lift model based on planned 5 **promotions** .

16 The method of claim 15, wherein the determining act is performed by a sales...predicted
sales volume.

20 A system for predicting the profit attributable to a proposed sales **promotion** of 0 a product, wherein the product has a wholesale price and a manufacturing cost...

...first computer including an application adapted to allow a user to select the proposed sales **promotion** , wherein the application uses a sales lift model;
a second computer adapted to access manufacturing...the profit prediction from the first computer.

25 A method of selecting the most profitable **promotion** from a plurality of
contemplated **promotions** for a consumer product, the method comprising:
providing a computerized sales lift model;
providing a...

...for use with the
computerized sales lift model;
2 0 identifying a plurality of proposed **promotions** for the product, wherein retail price
information for the product is specified for each **promotion** ;
running the computerized sales lift model for each of the plurality of

proposed
 promotions to predict product sales volume for each **promotion** ;
determining the cost of each **promotion** ;
2 5 determining the cost to the manufacturer for the product;
combining the cost of each **promotion** with the cost to the manufacturer
of the product and the planned retail sales price with the predicted
sales volume to estimate
manufacturer profit; and
selecting a **promotion** for implementation based on its profitability.
3 0
26 The method of claim 25, wherein identifying act further comprises
limiting the proposed **promotions** by market region.

27 The method of claim 25, wherein identifying act further comprises
limiting the 3 5 proposed **promotions** by **promotion** time period.
27
. The method of claim 25, wherein the providing a base volume estimate...
determining the cost to the manufacturer act comprises limiting the cost
to that during the **promotion** time period.

30 The method of claim 25, wherein the combining act comprises limiting
the costs to those during the **promotion** time period. 1 0 31. The method
of claim 26, wherein the computerized sales lift...

...is based at least in part on correlations between point-of-sale data and
past **promotions** for the product or a related product.

32 A method for predicting the profitability to a distributor of a
proposed
 promotion of a product, the method comprising:
proposing a **promotion** for the product during a time period;
providing a computer model of sales lift of the product capable of
predicting the effect on consumer sales of a plurality of **promotion**
types as a function of at least the
change in effective price to the consumer due to the **promotion** ;
2 0 providing a computer interface for entering data, wherein the
interface is electronically connected to a computer model for sales lift
for the product; entering information about the proposed **promotion** into
the computer interface for
 ...of sales lift;
predicting the change in consumer sales to be caused by the proposed
promotion
2 5 by use of the computer model of sales lift;
calculating the profit to...sales lift model for a product, the method
comprising: correlating point-of-sale data with **promotion** data to
obtain a predictive model for
sales lift of the product,
implementing a **promotion** of the product in a market during a time
period, estimating actual consumer sales of the product in the market
during the time period of the **promotion** based on at least one of point-
...and historical shipping volume;
comparing estimated actual consumer sales during the time period of the
 promotion to expected base volume to obtain the estimated actual sales
lift; correlating the estimated actual sales lift to the **promotion** data
for the
implemented **promotion** to yield a predictive equation; and

refining the sales lift model to incorporate the predictive the lift model applicable to a market subset comprising the market in which the **promotion** was implemented and applicable to the type of **promotion** implemented.

37 The method of claim 35, wherein the **promotion** is selected from the group consisting of a temporary price reduction, a distributed coupon campaign, an in-store 3 0 coupon campaign, a,loyalty card **promotion** , a rebate, and an advertised price reduction.

38 The method of claim 35, wherein the **promotion** is selected from the group consisting of a sweepstakes, a free gift offered with purchase... period of time during which the one or more products were the subject of a **promotion** and at least one period of time during which the one or more products were not the subject of a **promotion** ; and a processor in communication with said memory device, said processor configured to:
 receive information pertaining to a proposed **promotion** for a selected 0 product either identical to or closely associated with the one or more products for which historical sales information is embodied in the memory device, the proposed **promotion**
being planned for a future period of time in one or more locations;
 predict an...

...sales information;
 5 predict an expected sales lift that would be caused by the proposed **promotion** for the selected product in the in one ...factor to 5 estimate a sales lift for the second product caused by the proposed **promotion** of the selected product during the future period of time.

41 The method of claim 40, wherein the second product is not planned to be subject to a **promotion** during the future period of time.
 0

42 The method of claim 40, wherein the second product is planned to be subject to a **promotion** during the future period of time, and wherein the processor is further configured to predict the sales lift of the second product due to the combined effects of the **promotion** of the second product and the **promotion** of the selected product.
 30
. ...further comprising a graphical interface for displaying one or more predictions pertaining to the planned **promotion** .
44 The method of claim 40, wherein the processor is further configured to predict the...

...provide one or more products whose sales are expected to increase due to the proposed **promotion** .

45 The method of claim 40, wherein the processor is further configured to predict the...

...one or more distributors due to the sales lift caused by the proposed 1 0 **promotion** .

46 The method of claim 40, wherein the processor is further configured to receive sales data during a **promotion** and to revise the prediction

of sales lift based on the received data.
31

01000979   **Image available**
PFN/TRAC SYSTEM FAA UPGRADES FOR ACCOUNTABLE REMOTE AND ROBOTICS CONTROL
PERFECTIONNEMENTS FAA AU SYSTEME PFN/TRAC<SP>MD</SP> POUR LE CONTRÔLE
  RESPONSABLE A DISTANCE ET ROBOTIQUE POUR L'ELIMINATION DE L'UTILISATION
    NON AUTORISEE D'AERONEFS ET POUR L'AMELIORATION DE LA GESTION
    D'EQUIPEMENT ET DE LA SECURITE PUBLIQUE DANS LE DOMAINE DU TRANSPORT
Patent Applicant/Assignee:
 KLINE & WALKER LLC, 11201 Spur Wheel Lane, Potomac, MD 20854, US, US
   (Residence), US (Nationality), (For all designated states except: US)
Patent Applicant/Inventor:
 WALKER Richard C, 11201 Spur Wheel Lane, Potomac, MD 20854, US, US
   (Residence), US (Nationality), (Designated only for: US)
Legal Representative:
 DONNER Irah H (et al) (agent), Hale and Dorr LLP, 1455 Pennsylvania
   Avenue, N.W., Washington, DC 20004, US,
Patent and Priority Information (Country, Number, Date):
 Patent: WO 200329922 A2-A3 20030410 (WO 0329922)
 Application: WO 2002US30857 20021001 (PCT/WO US02030857)
 Priority Application: US 2001325538 20011001; US 2001330085 20011019
Designated States:
(Protection type is "patent" unless otherwise stated - for applications
prior to 2004)
 AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CZ DE DK DM DZ EC
 EE ES FI GB.GD GE GH GM HR HU ID IL IN IS JP KE KG KR KZ LC LK LR LS LT
 LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL
 TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW
 (EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LU MC NL PT SE SK TR
 (OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
 (AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW
 (EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: English
Filing Language: English
Fulltext Word Count: 133713

Fulltext Availability:
 Detailed Description

Detailed Description
... objective is accomplished via robotics (chosen for better real-time
 responsiveness for long distance control **scenarios**) to fly the **plane**
 to a Safe Base via special preprogrammed and isolated Right paths. This
 control protocol PFN...related filings.
 In concept this ASIC gives direction to those skilled in the arts to
 plan the various control **scenarios** involving hardware, software and
 firmware. This figure lists the basics to construct the aircraft controls

...to sedate all occupants; if robotics Right and remote controlled landing proved the most ideal **scenario** for a ...aid in public movement, safety and national security. System costs will be defrayed by accompanying **advertisement** for this service with a priority alert and processing for viewing special alerts or Public...

15/3,K/7   (Item 7 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00939231   **Image available**
LIFE INSURANCE PRODUCTS UNDER A SINGLE APPROVED FORM
PRODUITS D'ASSURANCE-VIE SOUS FORME REGLEMENTAIRE UNIQUE
Patent Applicant/Assignee:
 M FINANCIAL HOLDINGS INC doing business as M FINANCIAL GROUP, 205
  Southeast Spokane Street, Portland, OR 97202-6413, US, US (Residence),
  US (Nationality)
Inventor(s):
 SCHIMINOVICH Gabriel R, M Financial Group, 205 Spokane Street, Portland,
 OR 97202-6413, US,
Legal Representative:
 GRADY L White (agent), Covington & Burling, 1201 Pennsylvania Avenue,
  N.W., Washington, DC 20004-2401, US,
Patent and Priority Information (Country, Number, Date):
 Patent: WO 200273360 A2-A3 20020919 (WO 0273360)
 Application: WO 2002US7534 20020313 (PCT/WO US0207534)
 Priority Application: US 2001275030 20010313; US 2001333748 20011129
Designated States:
(Protection type is "patent" unless otherwise stated - for applications
prior to 2004)
 AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ
 EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR
 LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI
 SK SL TJ TM TN TR TT TZ UA UG UZ VN YU ZA ZM ZW
 (EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
 (OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
 (AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW
 (EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: English
Filing Language: English
Fulltext Word Count: 118771

Fulltext Availability:
 Claims

Claim
... V 01 M2AAF STD MNPU5 2
 thl 01 -M2CO1 ADD FNPU5 2
 thl 01 -M2CO1 **AD** FNSU5 2
 thl 01 M2CO1 ADD FNXG5 2
 thl 01 M2CO1- **AD** FSSU5 2
 JU-01 M2CO1 ADD FSXG5 2
 Ithl 01 -M2CO1 ADD MN PU5 2...7 7 7 7 7 7 7 7
 Ln tn Lo Ln to, td- Lo **Ad** -Lo U) Lo U-3 Lo in Lo Lo Lo Lo Lo tn Lo W...

00902210
A SYSTEM PROVIDING EVENT PRICING FOR ON-LINE EXCHANGES
SYSTEME DE TARIFICATION D'UN EVENEMENT DESTINE A DES ECHANGES EN LIGNE
Patent Applicant/Assignee:
  AMERICAN MANAGEMENT SYSTEMS INC, 4050 Legato Road, Fairfax, VA 22033, US,
    US (Residence), US (Nationality)
Inventor(s):
  PRICE Marc Steven, 12903 Starters Lane, Fairfax, VA 22033, US,
  FOSTER Reginald Candler, 1405 Langley Place, McLean, VA 22101, US,
Legal Representative:
  KRAVETZ Paul I (agent), Staas & Halsey LLP, Suite 500, 700 Eleventh
    Street, N.W., Washington, DC 20001, US,
Patent and Priority Information (Country, Number, Date):
  Patent: WO 200235434 A2 20020502 (WO 0235434)
  Application: WO 2001US32417 20011018 (PCT/WO US0132417)
  Priority Application: US 2000241799 20001020; US 2000741908 20001222
Designated States:
(Protection type is "patent" unless otherwise stated - for applications
prior to 2004)
  AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ
  EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS
  LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ
  TM TR TT TZ UA UG UZ VN YU ZA ZW
  (EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
  (OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
  (AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
  (EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: English
Filing Language: English
Fulltext Word Count: 7423

Fulltext Availability:
  Detailed Description
  Claims

Detailed Description
... THE INVENTION
 Field of the Invention
 The present invention is directed to a system that **prices** events
 in entities such as **electronic** exchanges, application services
 providers
 (ASPs) and portals and, more particularly, to a system that allows...
...affect another calculation.

 The above aspects can be attained by a system that provides
 complex **pricing** for multiple **electronic** exchange, ASP or portal
 events such that individual events can be priced, cross product events...

...can be priced and non-transactional events can be priced.

 The system dynamically and automatically **prices** the events responsive

to an **electronic** exchange, portal or ASP event **pricing** plan that
includes a decision network having rules with conditionally executed p
ricing algorithms. The...be
implemented using the present invention.

Figures 6 - 16 provide detailed view of the price **plan** for the
5 **scenario** of figure 5.

Figure 17 depicts the rule tree for the pricing plan noted in...

...be
implemented using the present invention.
Figures 19 - 32 provide detailed view of the price **plan** for the
scenario of figure 18.

Figure 33 depicts the rule tree for the pricing plan noted in...

...PREFERRED EMBOD]TVIENTS
I 0 The present invention is directed to a system for dynamically
pricing electronic transactions with a high degree of sophistication
for
electronic exchanges, AM or portal/e-marketplaces...of some kind.

1 0 The focus of the present invention is upon enabling flexible
pricing of events transpiring within an **electronic** exchange using the
Event
Pricer 14. The Event Pricer 14 is code based while the...

...14 is scalable for large transaction volumes.

The present invention supports a number of different **pricing**
scenarios for **electronic** exchanges including customer negotiated
pricing
structures, such as customer-specific discount percentages as well as
taper and tier thresholds tailored...and with the TAPESTRY product
available from American Management
Systems.

Below will be disclosed four **scenarios** and three price **plans**
corresponding to **scenarios** 2, 3 and 4. Pricing **plan** structures for
each of the 1 5 scenarios are depicted in the form of a...

...scenario 3. Following each of the scenario depictions are detailed GUI
views of the price **plans** for the scenarios and a view of the **plan**
structure tree as it is used in executing the plan in
accordance with the systems...

...Exchange Startup) depicted
by figure 4 illustrates the -typical scenario encountered and
accommodated by conventional **pricing** mechanisms of **electronic**
exchanges. Either a flat fee 92 for each transaction or a percentage 94
of the value of each transaction is applied by contractual arrangement
with the exchange.

The first price **plan** (Price **Plan** 1 - **Scenario** #2 - Volume
Discount On Amounts), as depicted in figure 5 determines a base

transaction
fee...end of the billing period is reached as is the cap 516.

The second price **plan** (Price **Plan** 2 - **Scenario** #3 - Product
Specific Charges), as depicted in figure 18, offers different transaction
fees based upon...

...transactions used in the calculations as well as the discounts being
applied.

The third price **plan** (Price **Plan** 3 - **Scenario** #4 - Customer
Specific Discount) applies an additional discount for special customers
that are identified as...powerful ways that rules are used within the
present
1 5 invention to enable complex **pricing** of different **electronic**
exchange events, navigating a user-defined decision network that can
comprise rules for any attribute...

...1422, such as previously discussed. The Electro M& Exchange
1418 can be based on conventional **electronic** exchange systems and the
pricing for the Exchange is provided by the pricing plan systems
described herein. A Seller 1424...
...network such as the Internet.

The present invention has been described with respect to the
pricing of **electronic** exchange events based on a service or product
exchanged between a buyer and a seller...

...can be things other than the goods and services exchanged. For example,
review of an **advertisement** by a buyer is
an event could result in a later applied discount, payment of...

Claim
1 A method, comprising:
receiving an electronic entity event; and
dynamically and automatically **pricing** the event responsive to
an **electronic** entity event **pricing** plan.

2 A method as recited in claim 1, wherein the event
comprises one of...

...exchanged as part of the transaction, multiple transactions with
goods/services, a product query, an **advertisement** review, transferring
to another site, an exchange subscription
1 0 fee, and a customer characteristic...

...event, said method comprising:
1 5 receiving the electronic exchange event; and
dynamically and automatically **pricing** the **electronic** exchange
event responsive to an **electronic** exchange event **pricing** plan.

13 A method, comprising:
receiving an electronic exchange transaction request;
performing an electronic exchange function responsive to the
electronic exchange transaction request; and
dynamically and automatically **pricing** an **electronic** exchange

event responsive to an **electronic** exchange event **pricing** plan.

14 A method, comprising:
receiving electronic exchange events; and
dynamically and automatically **pricing** the **electronic** exchange
events responsive to an **electronic** exchange event **pricing** plan having
transaction pricing, cross product pricing, summary pricing and
nontransaction **pricing** .

15 A method, comprising:
receiving **electronic** exchange transaction requests;
performing electronic exchange functions responsive to the
electronic exchange request and where...

...comprises transactions
exchanging a goods/services having a goods/services prices; and
dynamically and automatically **pricing** the **electronic** exchange
transactions with detail and summary **pricing** using an **electronic**
exchange event **pricing** plan responsive to relationships among buyers
and sellers and comprising negotiated'customer specific rates and...

...charges.

16 A system, comprising:
an electronic exchange handling an electronic exchange event;
and
a **pricing** mechanism dynamically **pricing** the **electronic**
exchange event responsive to an **electronic** exchange event **pricing**
plan.

17 A system as recited in claim 16, wherein said pricing
mechanism comprises a...

...price the event.

18 A computer readable storage controlling a computer by
dynamically and automatically **pricing** the **electronic** exchange event
responsive to an **electronic** exchange event **pricing** plan.

15/3,K/9   (Item 9 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00859421   **Image available**
SYSTEM, METHOD, AND ARTICLE OF MANUFACTURE FOR AN AUTOMATED SCRIPTING
     SOLUTION FOR ENTERPRISE TESTING
SYSTEME, PROCEDE ET PRODUIT PERMETTANT UNE SOLUTION DE SCRIPT INFORMATISE
     POUR MISE A L'ESSAI EN ENTREPRISE
Patent Applicant/Assignee:
 ACCENTURE LLP, 1661 Page Mill Road, Palo Alto, CA 94304, US, US
    (Residence), US (Nationality)
Inventor(s):
 HASWELL John Jeffrey, 13231 Wrenn House Lane, Herndon, VA 20171, US,

YOUNG Robert J, 6R Sackville St. Apt. 2, Charleston, MA 02129, US,
SCHRAMM Kevin, 1 Longpoint Lane, Rose Valley, PA 19063, US,
Legal Representative:
 HICKMAN Paul L (agent), Oppenheimer Wolff & Donnelly, LLP, P.O. Box
  52037, Palo Alto, CA 94303, US,

Fulltext Availability:
 Detailed Description

Detailed Description
... are performed in a tine-efficient manner. For example, Sun
Microsystems, Inc. has proposed an **automated** task-based **scheduler** for
use with UNIX platform. systems which allows users operating `clienC
machines to schedule tests...embodiment of the present invention, the
test scenarios are stored for delayed execution. The test **scenarios** may
be data-driven. In addition, the test seenarios may be developed using an
English...table column names.

getPersistedAttributes Retum all the attributes to persist. The
application developer invokes the
 ad .dPersistedAttribute method of the super
class to **ad** .d user id and. last update timestamp
attributes.

getKeyNames Retum the primary key field name...affects on the rest of the
component.

When the build code is deemed fit for **promotion** , the source code is ·
checked into the source code repository and the source code
administrator...are available on the market today, some of which provide
many features useful for code **promotion** and management.

During the ReTA Phase 1 engagement, Nficrosoft Visual SourceSafe was
utilized for it...is forwarded to the production operations team 2900
responsible for scheduling changes to production. A **promotion** to
production is scheduled. on the production plan 2902. Database
modifications are fetched from source...2)

RET P-300 128 Windows NT Server 4.0 Oracle Enterprise Edition 8.04
AD MB (SP4) HP OmniBack II Client
Bl
(400
4)
RET P-300 96 Windows NT...Internet, from your email and IP addresses, to
each site you. surfed to and which **ad** one clicked. Does this constitute
an invasion of your privacy? One may have freely given...values
Maintain Codes Table
Update single Code/Decode
Update all Codes/Decodes
Set Table Name
Ad .d new Code/Decode
Remove Code/Decode
Add Table
Remove Table
Base Services
Base Services...RETA-APPS Application Schema. This account contains
application-related
objects (tables, sequences and procedures).
Reta- **Ad** "n Administrator Role. This role provides administration
privileges
and rights to the administrator account. Rights...single component that
aggregates all of a user's auributes from multiple Active Directory
Service (**ADS**) providers. The primary provider is always the Membership
Directory. The AUO is a COM object...

15/3,K/10   (Item 10 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00543755   **Image available**
A MODULAR, CONVERGENT CUSTOMER CARE AND BILLING SYSTEM
SYSTEME DE FACTURATION ET DE SERVICE CLIENT CONVERGENT ET MODULAIRE
Patent Applicant/Assignee:
 AMERICAN MANAGEMENT SYSTEMS INCORPORATED,
 HANAGAN Mike,
 MOORE Leslee Eaton Cattrall,
 RAKIC Daniel,
 SEEGER Andreas,
 SOTOLA Rene,
 TATEM Chris,
Inventor(s):
 HANAGAN Mike,
 MOORE Leslee Eaton Cattrall,
 RAKIC Daniel,
 SEEGER Andreas,
 SOTOLA Rene,
 TATEM Chris,
Patent and Priority Information (Country, Number, Date):
 Patent: WO 200007128 A1 20000210 (WO 0007128)
 Application: WO 99US16445 19990726 (PCT/WO US9916445)
 Priority Application: US 9894459 19980729; US 99353629 19990715
Designated States:
(Protection type is "patent" unless otherwise stated - for applications

prior to 2004)
  AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM
  HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW
  MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZW
  GH GM KE LS MW SD SL SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH CY DE
  DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN GW ML MR
  NE SN TD TG
Publication Language: English
Fulltext Word Count: 29498

Fulltext Availability:
 Detailed Description
 Claims

Detailed Description
... alarms for potential error conditions,
  such as tasks failing to start or finish at their **scheduled** time. OP 22
  completely **automates** order **scheduling** and processing. This eliminates
  time
  consuming errors due to missed steps and improper work implementations...
  following scenarios illustrate the invention's support of convergence in
  four areas: product, customer, price **plan** , and billing. For each
  scenario , the
  SUBSTITUTE SHEET (RULE 26)
 following information is provided.

Convergence Description - not simply a definition...marketing (for
example, identifying individuals of a
certain age group to target them for specialized **promotions**)
and discounts (for example, identifying members of a
particular organization). Hierarchies are structured
collections of...criteria for rerating can also be defined by the user
through a graphical user interface.

 Promotions are handled via price plans (for example, a
customer signing up in January will get...Data access is restricted to
the invention processing. The
databases should not be used for **ad** hoe queries or support direct
access by external systems. This lessens coupling of data between...

Claim
... aveCustomerCorrespondence
:etOutputDevice
setRequestDate
validateCustornerCorrespondence
validateMailingType
O.. I
;-.o-8g
/44
FIGs 9a --o,] 9 b
 ad history of-
Gap Analysis Nstory
starminestamp
inter gap ondTinw3tamp
. O..1 networkFiloSequonceNumber
history or@

clsanUp...

00497493   **Image available**
FINANCIAL ADVISORY SYSTEM
SYSTEME DE CONSULTATION FINANCIERE
Patent Applicant/Assignee:
 FINANCIAL ENGINES INC,
 JONES Christopher L,
 SHARPE William F,
 SCOTT Jason S,
 WATSON John G,
 MAGGIONCALDA Jeff N,
 BEKAERT Geert,
Inventor(s):
 JONES Christopher L,
 SHARPE William F,
 SCOTT Jason S,
 WATSON John G,
 MAGGIONCALDA Jeff N,
 BEKAERT Geert,
Patent and Priority Information (Country, Number, Date):
 Patent: WO 9928845 A1 19990610
 Application: WO 98US19952 19980923 (PCT/WO US9819952)
 Priority Application: US 97982942 19971202
Designated States:
(Protection type is "patent" unless otherwise stated - for applications
prior to 2004)
 AL AM AT AT AU AZ BA BB BG BR BY CA CH CN CU CZ CZ DE DE DK DK EE EE ES
 FI FI GB GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV
 MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SK SL TJ TM TR TT UA
 UG US UZ VN YU ZW GH GM KE LS MW SD SZ UG ZW AM AZ BY KG KZ MD RU TJ TM
 AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM
 GA GN GW ML MR NE SN TD TG
Publication Language: English
Fulltext Word Count: 12363

Fulltext Availability:
 Detailed Description
 Claims

Detailed Description
... range of investments typically available to individual investors in
 mainstream mutual funds and defined contribution **plans** .

 After generating future **scenarios** for the factor model, financial
 products available to an investor may be mapped onto the...the tax module
 320 produces tax-adjusted returns for each available financial product
 and tax- **ad** usted distributions for each available financial product.

 The portfolio optimization module 340 calculates the utility...

Claim
... portfolio for a given time horizon taking into consideration interim
contributions and withdrawals.

21 An **automated** financial advisory system comprising:
a **forecasting** means for generating return scenarios for each asset
class of a
plurality of asset classes...
?
17/3,K/1   (Item 1 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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01564051   **Image available**
**SYSTEM AND METHOD FOR OBTAINING REVENUE THROUGH THE DISPLAY OF
HYPER-RELEVANT ADVERTISING ON MOVING OBJECTS**
**SYSTEME ET PROCEDE PERMETTANT DE PROCURER DES REVENUS PAR
L'AFFICHAGE DE
PUBLICITES D'HYPER PERTINENCE SUR DES OBJETS MOBILES**
Patent Applicant/Inventor:
  BRUBAKER Curtis M, 46 Monarch Bay Drive, Monarch Beach, CA 92629, US, US
    (Residence), US (Nationality), (Designated for all)
Legal Representative:
  O'BANION John P (agent), O'banion & Ritchey LLP, 400 Capitol Mall, Suite
    1550, Sacramento, CA 95814, US
Patent and Priority Information (Country, Number, Date):
  Patent: WO 2007109541 A2 20070927 (WO 07109541)
  Application: WO 2007US64175 20070316 (PCT/WO US2007064175)
  Priority Application: US 2006783577 20060316; US 2006794006 20060421
Designated States:
(All protection types applied unless otherwise stated - for applications
2004+)
  AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM
  DZ EC EE EG ES FI GB GD GE GH GM GT HN HR HU ID IL IN IS JP KE KG KM KN
  KP KR KZ LA LC LK LR LS LT LU LY MA MD MG MK MN MW MX MY MZ NA NG NI NO
  NZ OM PG PH PL PT RO RS RU SC SD SE SG SK SL SM SV SY TJ TM TN TR TT TZ
  UA UG US UZ VC VN ZA ZM ZW
  (EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LT LU LV MC MT
  NL PL PT RO SE SI SK TR
  (OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
  (AP) BW GH GM KE LS MW MZ NA SD SL SZ TZ UG ZM ZW
  (EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: English
Filing Language: English
Fulltext Word Count: 53086

International Patent Class (v8 + Attributes)
IPC + Level Value Position Status Version Action Source Office:
  G06Q-0010/00 ...
Fulltext Availability:
  Detailed Description

English Abstract
  ...owners of those objects are then compensated. The system enables the
  display of hyper-relevant **ad** content with synchronized remote audio,
  personal messaging and public service alerts on surrounding objects and

...

...content deliveries between objects, track and measure consumer engagement, verify consumer's direct responses to **ad** viewings with accountability systems.

Detailed Description
... of users for providing or viewing content.

2. Description of Related Art

[0007] In the **ad** business, there are a handful of yet to be realized holy grails.

They are: (1) Deliver your **ad** to the correct demographic (age, gender, income level, etc.); (2) Deliver it at a time...

...not when he's out for a soda or in the bathroom); (3) Pitch your **ad** to consumers who are truly interested in what you are selling (instead of wasting advertising...

...a great restaurant at meal time a couple of blocks from the place); (8) Put **ads** into the distribution pipeline in just seconds using the Internet; (9) Base billings on the actual content delivered and do it all electronically and automatically; (10) Give advertisers proof their **ads** actually ran and track them on a minute to minute basis; (1 1) Provide feedback to the agency or its clients on consumer engagement; (12) When your **ad** shows, let viewers buy (or at least get more information) at the push of a...

...Over the next decade, major money will be set in motion to create entirely new **ad** platforms and new ways to reach consumers in what today is a $250 billion industry. In the process, the ways and means of the contemporary **ad** business are going to be turned inside out, not so much because of the present...

...the best way to expose products and services to consumers because TV had traffic. However, **ad** executives are beginning to recognize how much money is being wasted on antiquated media plans. For the first time in history, TV Spot **ads** were the biggest loser in **ad** spending for 2005, sinking 9.5% to $ 15.5 billion, because viewers have 'left the...

...an audience that truly cares about what advertisers have to say and sell, and those **ad** messages have to be bright, quick, and relevant to the new audience's current interests...

...on my device." He may be right.

Recent studies have determined that kids like watching **ads** as long as they represent something they're interested in. Look at the Super Bowl, where large numbers of viewers tune in primarily to watch the **ads** . Consumers like these want to participate, want more to talk about, and want ultimately to...

...for tiny screens on the go. What is required is a systemic rebirth of the **ad** game including novel applications and pragmatic distribution.

But more than anything, it requires marketers to...

...displays on taxi tops vie with sign-wrapped busses and trailers, bus shelters plastered with **ads** , lighted store signs, and a profusion of billboards, many with revolving panels and flashing lights...

...way into signs, surfaces, and products of all kinds. We are already inundated with visual **ads** : our daily sensory diet includes thousands of commercial impressions, from pop-ups and animations in...

...that video signs are more distracting than static signs and can act as catalysts, increasing **ad** gazing of all types, even in unsafe situations. Similar studies are documenting the effects of...

...instinct; and that changes in color can capture attention. None of this proves that outdoor **ads** cause accidents, but behavioral mechanisms clearly come into play when drivers encounter roadside signage. The...

...out-of-home advertising. If outdoor advertisers had instead placed that $5.5 billion in **ads** using the present invention, they'd not only have put their money into a superior **ad** platform, they'd have been able to reimburse drivers for their wasted $3 billion and...

...modern trains, subways, busses and aircraft, moving objects are the basis for corporate and self **promotion** , personal expression, identification and advertising. Today, it is not unusual to see cars, trucks, entire busses, even independently-towed trailers adorned with wraps or **ads** for products and services—many of these are backlighted to draw the attention of...

...to these as advertising "tonnage" since the car behind will view the same static, print **ad** for 5 to 20 minutes (the time a vehicle spends behind it in traffic in...

...cost of media buys and produces accounting inaccuracies. The present invention represents not merely an **ad** platform to deliver hyper-relevant content, but is one which is totally electronic from the
...

...been previously unheard of in the world of contemporary advertising.

[0025] TELEVISION

[0026] Advertisers place **ads** everywhere from skywriting to urinals and from grocery store check-out dividers to the fruits...

...move. With nearly 200 million U.S.
subscribers to wireless services, marketers are wondering if **ads** beamed to wireless devices such as cell phones, Blackberries and hybrid devices will evolve into...

...spots you can see in your living room. And despite declines in viewership due to **ad** -skipping Digital Video Recorders (DVRs) and media alternatives such as the Internet, American viewers still...

...delay per traveler per year, which is 2 19,600 seconds a year. In

television **ad** terms that's nearly thirty 30-second commercial spots per day, and nearly sixty 15...

...8212;some are now household words—whose job it is to measure the existing **ad** viewer base.

ClearChannel is evaluating Requests for Proposals (RFPs) looking for new electronic devices to measure its huge radio audiences. Arbitron, a firm specializing in **ad** measurement, has developed a device called a portable people meter (PPM), a passive electronic device...

...with a map of outdoor advertising sites to determine who passes what kinds of outdoor **ads** , and when. Nielsen's data does not provide demographics on a per user basis for...

...could have been exposed to and roughly how often. The methods for gathering and applying **ad** measurements are woefully lacking in an industry that, in other respects, is mature and widespread.

[0030] Fundamental to **ad** measurement is defining what constitutes an "impression" or a "view." Special software has been created...

...First, the present invention is not inserting commercials into an entertainment stream, it is showing **ads** exclusively. Secondly, since every showing is essentially "requested" by an electronic device on one moving...

...effectiveness—for example driving to a specific hotel or restaurant immediately after seeing an **ad** for it.

Furthermore, every content request—whether or not it resulted in a confirmed...

...of combining IP-based targeting—a very common technique that allows advertisers to target **ads** based on the location of a user—with, for example, information about the city...

...San Francisco is searching for an address in Austin, Texas, online marketers can target airline **ads** advertising cheap fares from San Francisco to Austin.

[0034] In the same way, the present...

...coupling that information with an owner's stored profile, a wide variety of highly directed **ads** can immediately be triggered for presentation on any of the moving objects it might encounter...

...integrated advertising and distribution infrastructure. When users in moving objects in the field see an **ad** that intrigues them, they can push a button to get immediate information (such as pricing...

...major film studio releasing a big movie for the weekend. You've budgeted a substantial **ad** spend to promote the grand opening with significant print and TV spots to generate excitement...

...an electronic discount at a nearby Burger King? The present invention

allows exactly such a **promotion** to be executed, both instantly and seamlessly.

[0041] THE NEW CANVAS

[0042] Computer and display...is perhaps the "4th screen": a unique media platform totally dedicated to the display of **ads** . For a truly dedicated platform, however, integration must occur at a variety of levels:

[0056...

...with average consumer lifestyles. The method involves paying drivers to wrap their personal cars in **ads** touting products such as ice cream, juice bars or Internet services. The driver's job...

...operate as a traveling billboard. Some companies offer drivers the free use of a new **ad** -wrapped car, while other drivers are paid $300 to $400 a month to allow the...

...commercialism. As mentioned previously, taxi owners in some major cities are being allowed to place **ads** on the outside of their cabs. Leasing **ad** space in this way provides taxi owners and drivers with additional revenue which helps them...

...it went to the right parties. It has no effective procedures in place for judging **ad** "performance" (other than post analysis assumptions by creatives and the evaluation of sales) to determine...

...effectiveness and acceptance, and the presenters of that content are financially rewarded on a per **ad** , per screen basis for the use of their platforms just as though they were partners...

...profiles in other moving objects. Nor is the applicant aware of any single, closed-loop **ad** platform which allows consumers to request specific kinds of content, to distribute that content, to...

...hyper-relevant advertising on moving objects which receive, store, poll and extract data to present **ads** and other types of information based on the time of day, their location and their...

...with an electronic means for the wireless transmission of stored, encoded user profiles containing the **ad** viewing preferences for the occupants of one moving object, to the receiving system in another moving or fixed object. The system enables the display of hyper-relevant **ad** content with synchronized remote audio, personal messaging and public service alerts on surrounding objects and...

...content deliveries between objects, track and measure consumer engagement, verify consumer's direct responses to **ad** viewings with accountability systems for moving object owner/operator Just Compensation.

The invention further enables the widespread, non-invasive, profile-driven, **ad** hoc collection of privacy-compliant data for research purposes relating to consumer movements, travel patterns...

...exterior finishes and/or glazing with an electronic means for receiving,

storing, queuing and displaying **ad** content, and for the wireless transmission of stored audio or audio codes to a viewing...

...mobile advertising and communications platforms and further defines a means to generate revenue from the **ad** hoc collection of hyper-relevant data through the deployment and use of those platforms.

By...or political candidate, as a kind of "electronic bumper sticker".

Another owner might display a **promotion** or an **ad** for his own small business and do it at precise times of the day or...
...who participate, from the advertisers and agencies who will pay to use the invention's **ad** platform to the manufacturers of moving objects that will introduce what will be the equivalent...

...communications and advertising platforms for profit.

[0072] Commercial advertisers will continue to deal with selected **ad** agencies and will develop creative content in the same ways as they do today, but...

...and practices defined under the present invention. Content producers will continue to work with their **ad** agencies, creating end products appropriate to the selected media, then media buyers will purchase **ad** slots and schedule content, but it will be done over the Internet. Submitted content will...

...and technical requirements, and then encoded for time, venue, and relative priority over other scheduled **ads** or content types.

Once content is encoded, the best method for distribution is determined (cable...
...types of content. Typically, government or public service content will have a display priority over **ads** . The triggering of public service alerts is critical and is sometimes accomplished through external systems
...

...the individual owners or operators of the various moving or stationary objects that comprise the **ad** platform and were involved in the delivery of that particular content. The present invention introduces...

...accountability to assure this.

[0077] General consumers will pay for the distribution of their own **ads** and personal messages, even when such displays are on their own moving objects, although such...

...beneficiary; thus, early investment may be from the more entrepreneurial content producers, media buyers, and **ad** agencies, along with their large corporate clients, and finally the traditional competing major media platforms...

...where that data is then received, polled, extracted and used to control the display of **ad** content or other types of information on the surfaces of such other objects.

[0089] It...

...being.

[0098] It is another object of the present invention to allow advertisers to submit **ad** content together with delivery information for approval and subsequent distribution to moving objects.

[0099] It...

...that information by being able to control what they see and hear with respect to **ad** content that is presented to them.

[00103] It is another object of the present invention...

...another object of the present invention to enable the wireless, automated downloading of encoded commercial **ad** content, together with encoded delivery information, to the on-board storage devices of moving objects...
...to spontaneously request additional information, to purchase merchandise or otherwise respond to electronic offers and **advertisements** as they view such content from or while operating moving objects.

[001 14] It is...object of the present invention to upload user codes which have been transmitted on an **ad** hoc basis between moving objects in the field for the purpose of tracking consumer movements...

...marketing and planning.

[00128] It is another object of the present invention to convert the **ad** industry's enthusiasm and its need for unique advertising platforms into capital investment in said...

...are explained later.

Content 150 represents conventional, targeted and/or hyper-relevant audio and video **ad** content, public service content, personal content and encoded personal profiles from fleet or government users...

...Pre Existing Vehicles 655 are able to wirelessly transmit VIN, model data, content requests and **ad** control signals 750 to New Production Vehicles 652, 654, and then receive audio and view...

...requests for content deliveries (viewings) in an effort to demonstrate greater interest in a specific **ad** or site than really exists. In the case of the present invention, this could be attempted by individuals to get paid for presenting **ads** that were not actually viewed. At this stage, an exchange of data 170 between the...

...vehicles having aftermarket installations 655. The Distribution unit 800 can then feed back in-field **performance measurements** to the general user body as indicated at 180.

The Compensation unit 900 has, among...

...compensation to Registered Platform Owner/Operators 1000, as shown at

178; and the sale of **ad** hoc collected data to marketers and researchers, as indicated at 1100.

[00190] FIG. 2 shows...defined collectively as three elements: the media buyers 305 (entities responsible for purchasing and scheduling **ads** in various media), the advertising agencies and their clients 3 10, and the content producers 3 15 (entities typically hired by the **ad** agencies to create, produce and execute products for media placements). The applicant envisions these groups...

...attention and establishing criteria for such displays); Content Standards & Formats (limitations on certain kinds of **ad** content relative to specific demographics, or the manner in which certain presentations can be made...

...to each other); Proximity & Venue Regulations (determining times and locations in which certain kinds of **ads** might not be permitted, or might be limited in scope or content); methods and schemes for Demographic Encoding (classifying the various types of products and **ads** so they can be matched to consumer request profiles and properly tracked for measurement, accountability...

...a significant user and beneficiary. As noted hereinabove, there is a serious need for improved **ad** accountability, demographic effectiveness and tracking of engagement, and there is no question that advertisers and

...

...New Vehicle Production. As it was with Confirmed Public Service Use, path 173 indicates Confirmed **Ad** Distributions sent back to the Distribution unit for **ad** performance assessment, engagement tracking, measurement, accountability, fraud exposure and compensation. Once data is processed by the Distribution unit 800, it can provide performance feedback 183 to Media Buyers, **Ad** Agencies or Advertisers in a variety of formats, including data on the direct daily deliveries...

...contracts with the Distribution entity 800 to display their own company's advertising, branding or **promotions** . The applicant anticipates that a number of individually operated advertising and **promotion** businesses may spin off from such commercial platforms wherein small business owners might purchase dual-purpose vehicles with the intent of operating a fleet of mobile **ad** platforms around the clock in key markets, to train and manage drivers for such an...

...indicated at 1100 in FIG. 1. The downloading of special instructions for the collection of **ad** hoc research and planning data based on independently contracted or measured studies is shown at 1120 in FIG. 4. The uploading of such **ad** hoc collected in-field data is shown at 1140.

[00203] Logged Personal Use Authorizations (request...

...a consumer might make in engaging with the business of viewing and displaying hyper-relevant **ads** and personal communications. Two parallel engagement paths are shown, reflecting a preferred embodiment including a

...

...family members are allowed, in the privacy of their own home, to select

their individual **ad** viewing preferences. Here, each member of the family (or the authorized users in a business...

...can be updated and submitted periodically from nearly any location having network access. Also, because **ad** preferences can be highly personal in nature—and because they directly influence the kinds...

...subject matter which he prefers remaining confidential, when he completes this portion of his Personal **Ad** Viewing Preferences, he can limit such content requests, for example, to only the times he...

...based moving object, when kids are traveling in their parents' vehicle, parents can prevent certain **ads** or content which they feel are inappropriate from being displayed on moving or fixed objects around them. When the kids are no longer in the vehicle, those **ads** can be switched back on or allowed.
[00213] At 445, the Registered Owner of a...

...vehicle, or whether the party responsible for the vehicle wishes to allow or to prevent **ads** from being viewed by any other specific party. Research reveals that kids today truly enjoy...

...interested in. So if kids are misbehaving, parents might just threaten to shut off their **ad** viewing preferences for the rest of the way home.

[00214] A wide variety of **ad** viewing features are expected to be implemented by the individual manufacturers of moving objects under...

...moving or stationary objects in the vicinity, thereby controlling the variety and nature of the **ads** polled and selected for presentation by such other objects. Based on each vehicle manufacturer's...

...land-based vehicle), an owner has purchased or leased a New Production Vehicle with the **ad** display technology built in. As we saw in the family scenario, the dealership has pre...

...432); Assignment of Family/User Names to Preference Selector (436); Family Member Selection of Personal **Ad** Viewing Preferences (442), and Registered Owner Determines Viewing Protocols (444), are essentially the same as...other words, there is a media exposure hierarchy which determines the value of a given **ad** 's impressions based on the platform's ability to reach specific audiences at specific times...

...individuals or small companies that could register large numbers of moving objects primarily to circulate **ads** within the high value target markets such as the downtown areas densely populated cities. Should...

...promote or display. In so doing, that owner also forgoes revenue from those precluded display **ad** opportunities. Examples might include individuals who wish to boycott certain products or companies. Another might...

...Therein lies another responsibility for Distribution, and an inherent feature of the present invention: political **promotions** in and around polling places can be electronically monitored and prevented. The reverse is also...

...of their assets: selecting their Personal Use Preferences for their own moving objects. Because personal ad placement decisions also bear on the VIN's overall ability to generate income, only the...

...452, family members (or small businesses) are allowed to create and submit their own personal ad content for display on their own or on other moving objects. Such content can range from simple neighborhood business ads to very spontaneous advertisements applied to vehicles on the spur of the moment, such as displaying a High School...

...internal hard drive, based on a received code. There are many such examples of personal ads , sponsorships or messaging: a political candidate might email you an animated electronic bumper sticker from...

...speech. Such content is submitted by the Registered Owner online and once screened, can be scheduled for automated release, or can be stored on the VIN's hard drive for spontaneous or manual...

...discounted and debited against the Registered Owner's monthly income check. The broadcast of Personal Ad Content to other moving objects, however, would constitute a media buy. Such purchases are scheduled...

...basis, the present invention is able to take hyper-targeted or hyper-relevant marketing and promotion to entirely new levels of performance.
[00226] FIG. 6 illustrates a first embodiment of a...

...vehicle's exterior finish allowing complete emphasis to be placed on the logo (the current ad content) as it is presented in this example. The moment this vehicle begins to slow...

...Of importance in the present invention is that during any speed or maneuvering changes the ad content slate is gently wiped clean so as to be totally non-distractive. At this...

...off the objects moving in their paths as they must do today when viewing roadside advertisements and signage. In practice, the graphic surface character of a moving object may simply dissolve...

...vehicles and the electronic distribution, measurement, engagement tracking and the later downloading of mass-market, ad hoc collected information together with owner/operator compensation.

[00240] FIG. 17 is a block diagram...

...previously established marketing criteria which in turn permits the selection and queuing of hyper-relevant ads , public service, or personal content from hard drive 7 16 . If signal 744 contains digital... Content Distribution 150; Public Service Content (road/weather hazard alerts, upgrades, etc.) 152; hyper-relevant ad Content 153; Driving Population Personal and Fleet/Government Public Service Content 154; and special programming instructions for ad hoc communications between vehicles 156. Antenna 7 15 enables the uploading of data and information

...

...VINs 163; and Logged Advertising Exposure 164. Antenna 7 15 also enables

the uploading of **ad** hoc research collected and stored on moving objects' hard drives (or on board memories) while...

...have it sent from his mom's car to his pals. If mom spots an **ad** for a new book, or even a new blouse, she can buy those items at...

...area.

[00257] Thus far, we've learned that people don't really object to viewing **ads** about subject matter they are interested in. We've learned that kids embrace advertising when...

...they are and what they want, pedestrians can have the same kinds of hyper-relevant **ads** and other types of information presented to them on the exterior of nearby vehicles. If...

...Content Preferences 155; the downloading of Public Service Content (road/weather hazard alerts, etc.) 152; **Ad** Content downloads 153; and any special software or instructions 156 relating to the **ad** hoc collection of data (normally vehicle-to-vehicle) for widespread monitoring and measurements. All downloaded...

...by venue and time 163; Logged Personal Use Authorizations (including any view blocking or personal **ads**) 167; and Logged Personal Use Exposures or impressions 168 by VIN, venue, and times.

[00269...

...the time of delivery; this step is shown at 820 for Public Service and commercial **Ad** content and at 844 for the Driving Population and Fleet/Government use. Time encoding determines...from a multiplicity of moving objects participating in the widespread collection of data on an **ad** hoc basis.

[00283] FIG. 19 is a block diagram depicting the Compensation model of the...

...drives of Pre-Existing Vehicles 680. Such downloads would also include composite data from the **ad** hoc collection of user codes communicated between authorized or programmed moving or fixed objects, indicated...

...163; Logged Personal Use Authorizations from specific VIN numbers (including any view blocking or personal **ads**) 167; and for Logged Content Exposure 160, there are Logged Public Service Exposure 162; Logged...

...of all data is indicated in FIG 9 at 170. At the same time, Confirmed **Ad** exposures vs. distributions are indicated at 173; confirmed Personal and Fleet/Government exposures vs. distributions...

...fraud" is a term given to a method of generating clicks (or apparent requests) for **ads** on the Internet in an effort falsely tally online "hits" and thereby show interest in...

...key word selections in search formats —in order to receive greater payments for those **ads** by reflecting increased apparent value, where,

in fact, those **ads** have not actually been viewed at all. The present invention could be vulnerable to such...

...such as automakers, banks, petroleum companies, insurance companies, and others. Any of these might offer **promotions** with incentives for the use of this unique advertising platform and these could eventually take...

...might offer free gas plus a premium for buying their brand instead of simply receiving **ad** dollars from the entity. This kind of co-compensation might apply to automotive insurance, credit...

...upon, a hazardous area often defined by GPS coordinates.

[00301] At 1120, a typical Proximity **advertisement** is shown. A consumer in a following vehicle might request such proximity content be displayed ...

...with current prices.

[00302] The present invention uses existing onboard GPS Navigational systems to deliver **ads** at precise locations determined by the advertiser or by the media buying agencies. By coupling...
...in the world of marketing. In practice, the desired GPS coordinates are coupled with the **ad** content at the time of upload. When a vehicle's GPS system later indicates travel within those specific boundaries, then those **ads** are either queued or are given priority over other content.

[00303] At 1140 is an...

...be generated by consumers or professionals and can be uploaded by users themselves. If personal **ads** are placed on other vehicles, they will pay the going media rate for the anticipated...from the lot into the mall. Proximity sensors on board each vehicle could activate such **ads** as pedestrians approached and passed behind them. These displays can also easily be targeted by...

...parking. The Exposure Priority assigned for Apple's sponsorship (the preference with which Apple's **promotion** is given over other types of content) is shown at 1365 as Level 2, with...

...which lets him manually override his own schedule to present his own or other personal **ads** whenever he chooses. Also, because his business operates in a localized area and involves such...
...advertising, but as soon as he re-enters his home neighborhood, his Personal or Business **ads** will queue up and promote his local enterprise. At 1375, we see this has resulted...

...will therefore be among the lowest available, and will simply be deducted from his monthly **ad** revenue, as indicated at 1395.

[00313] In the last column, Emergency, we see at 1320...

...141 6, has his normal personal profile active. The disinterested driver has all of his **ad** viewing preferences shut off, as indicated at 141 8. So, when driving north on Main...

...00317] From 1st Street to 2nd Street, mom in her SUV will see family oriented **ads** derived from her own interests, mixed with the interests of her children (since their profiles...

...so adjusted), as shown at 1422. At 1424, the business visitor in town will see **ads** and content based his own WIA/WIW profile interests, except that any proximity-based interests...

...traffic safety. As vehicles near the intersection, this alert overrides even Apple's high cost **promotion** and the disinterested driver's preferences at 1448 to not view commercial content.

Apple's...

...1456 will see, presented on the objects before and/or around them, both the Apple **promotion** and Hilton Hotel's proximity **ads**. Apple's logos will be seen approximately 70% of the time between 4th and 5th along Main Street, and Hilton's **ad** will be seen about 30% of the time, due to Apple's premium fee paid...

...levels of paid content: Apple at 70% (due to the premium fee), Hilton Hotel's **ads** at 20% of the linear block, and McDonald's at 10% of the linear block...

...car driver at 1484, and our daily commuter at 1486 will all continue to view **ads** based on their previously scheduled proximity media buys and their content delivery instructions. The result...

...object, as indicated at 1505. Once received, an initial question is asked at 1510: Are **ads** rejected? If the answer is YES, no **ads** are queued, as indicated at 151 5, and subsequently, at 1520, the declined **ad** viewing instruction is logged on the hard drives of both the requesting (transmitting) and the...lanes beginning with the signal's light change from amber to red. Through this instant, **ad** hoc exchange of information at any populated intersection, all properly equipped vehicles can distribute current....

...that possesses signal sequence codes regarding the location, it is able to broadcast, on an **ad** hoc basis (from one vehicle to another), the traffic light timing sequence it has logged...

...friends. It came in two models, one basic, the other with Lexus' new on-board **ad** display system, something the company called an " **ad** /hybrid." Other than this, the models were identical. With financing, the slight increase in cost for the **ad** /hybrid was barely noticeable in the monthly payment, but the window sticker made it clear...

...produce handsome annual revenue for its owner, significantly offsetting the costs of its built-in **ad** display technology. On the sticker, this revenue had been translated in terms of the car...

...average fuel performance had been estimated. Dad signed the papers, the dealer pre-registered the **ad** /hybrid's VIN and dad headed for home. [00352] The kids were all over the...

...drove up the drive. Right away, his 8-year old daughter wanted to place

picture **ads** for her after-school dog walking business. His 14-year old son was ready to...

...and color, greeted dad with his own user name and welcomed him to the Lexus **ad** network. Minutes later, behind another vehicle on the freeway on ramp, he viewed a 30-second spot for his favorite ball club, a **promotion** for ABC's Monday Night Football, and was offered 50% off for his birthday at...

...company's parking garage, unaware that antennas overhead were already uploading the morning's recorded **ad** deliveries and downloading to his hard drive the latest content released to the Internet just...

...SGMA) Show, where Nike was a major sponsor. Smart of them to buy the local **ad** space, he thought to himself. A few blocks past the convention center, the Nike sponsorships...

...from trucks and commercial vehicles seen on the streets in past decades. Dad squeezed the **ad** pad on his steering wheel and the small display in his instrument cluster revealed the...

...00358] When dad arrived home he found that his daughter had finished a little graphic **ad** for her dog walking service. How could he refuse to let her upload it to...

...home network.

[00359] As dad drove to work the next morning, he was barraged by **ads** for snowboards, video games, a radical new soda, and previews for kid's TV shows...

...made sure that each family member had their own password and he proclaimed himself the **ad** /hybrid's official system administrator.

[00360] On Saturday, mom borrowed the Lexus to accompany two...

...roadwork and a closed road on her usual route to the Mondhan.

Thanks to the **ad** /hybrid's to warn her of a traffic blockage in real time, she and her...
...the beginning of the show. Driving home alone, and now curious, mom switched on the **ad** /hybrid's system. Two blocks from the Hotel, a black Escalade lit up in front...

...to a Borders Bookstore Grand Opening. That evening, she relented and completed her own online **ad** /hybrid profile so she too could receive hyper-relevant **ads** .

[00361] A month passed and mom's Visa Statement arrived. To her surprise, it showed a $48.70 credit under a Citibank **promotion** , just because she had watched a few **ads** ! That evening, she mentioned her little windfall to her husband. Dad went to his home...

...from Lexus in the amount of $849.60, just because he had displayed a few **ads** .

[00362] Those skilled in the art will appreciate that the exemplary embodiments described herein can...

17/3,K/2   (Item 2 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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Detailed Description
... consumers. Conventional ad networks typically use a bidded CPC as a
  primary determiner of which ads get shown; the higher the CPC, the more

likely an **ad** will be shown. Thus, in the example above, the genealogy **ads** on AOL. com are not shown as much as they should be, because the advertiser is paying less per click than their true value to the advertiser. Similarly, the **ads** on Google.com are shown more than they should because the advertiser is paying more per click than their true value to the advertiser.

To address this problem, a conventional **ad** network could, in principle, allow advertisers to pay different CPC's for each of the...

...by subdividing the bidding market, allowing advertisers to pick and choose which sites run their **ads** , with far fewer advertisers bidding for a given keyword in any one submarket.

Similarly, uniform CPC pricing is not a good fit with behavioral targeting of **ads** .

In behavioral targeting, **ads** are targeted to individual users based on their demographics and past behavior, such as which...

...they've purchased. Typically, users may be segmented into dozens or hundreds of segments, while **ads** are differentially targeted to the segments.

Since some segments are more likely to purchase after clicking on an **ad** than other segments, advertisers want to pay a different CPC for each segment. But, as...

...an unscrupulous business can easily generate large volumes of fake clicks on its competitor's **ads** , forcing the competitor to pay for clicks that aren't generating any real business. More seriously, an unscrupqlous publisher can run CPC **ads** from an **ad** network and create fake clicks in an attempt to get more S revenue from the **ad** network (which shares its revenue with its publishers). Click fraud is widely recognized as a serious problem, and **ad** networks like Google and Yahoo invest large amounts to attempt to detect and prevent such fraud. Complexity of Keyword Bidding. **Ad** networks such as Google and Overture require advertisers to pick keyword phrases that control when the **ad** is shown and a maximum per-click price for each keyword phrase. Both tasks are quite difficult for the average advertiser.

The keyword phrases associated with an **ad** trigger when the **ad** is displayed to a user. On a search engine, the phrases are matched against the...

...matched against the content of the pages. Picking good keywords is essential for making the **ads** relevant to the end users.

A single **ad** for one product might require dozens of triggering keyword phrases.

A typical small advertiser might have dozens of **ads** and hundreds of keyword phrases, and medium and large-sized advertisers could have tens or...

...advertiser to think of all the different phrases that should trigger the

display of an **ad** . For example, a single **ad** for "Apple iPod" might require the following keyword phrases: "Apple iPod", "iPod", "mp3 player", "Apple...

...Typically, a sophisticated advertiser will measure the rate at which people who click on an **ad** triggered by a given keyword phrase go on to make a purchase-the so-called...

...of one of its products, and suppose that 10% of users who click on an **ad** triggered by a given keyword phrase actually go on to make a purchase. In this...

...keyword phrases, track conversion rates on them, and adjust the maximum CPCs accordingly. The advertisers' **ads** , products, prices, and Web site-all of which affect conversion rates-are constantly changing, and...

...currently use unsophisticated search engine marketing (SEM) tactics.

The Use of Click Rate for Judging **Ad** Relevance. A number of **ad** networks, including Google, use the rate of clicks on an **ad** as a partial measure of the **ad** 's relevance to users. While this has worked well when the **ads** were shown mostly on a few search engines, it doesn't work nearly as well when the **ads** are shown on thousands of Web sites, and it doesn't work well with behavioral targeting.
Some conventional **ad** networks choose which **ads** to show on a page, by first finding **ads** whose keywords match the text on the page. Then the network ranks those matching **ads** , by estimating the effective revenue per impression it would get from each **ad** if it were to be shown on that page, and then picks the **ads** with the highest revenue per impression, referred to as either "effective CPM" or ECPM.

Google estimates the effective revenue per impression using the click rate of the **ad** and the bid price of the **ad** 's keywords: ECPM click rate of the **ad** * bid price per click for the **ad** keywords "Click rate" is defined as clicks per impression, and "bid price per click" is...

...thus: ECPM = dollars / impression = clicks / impression * dollars I click To measure click rate, such an **ad** network may run thousands of initial test impressions of an **ad** to get an accurate measure of a click rates (which are typically on the order of 0.1 to 1% for non-search **ads**). While the use of test impressions may work adequately on a single search engine, such...

...network of thousands of publishers, or when applied to behavioral targeting.
The click rate for **ads** often varies considerably from one publisher's site to the next, from one section of...

...user segments inferred by behavioral targeting.

is It would therefore be advantageous to provide an **ad** network that could measure an **ad** 's click rate separately for each of the thousands of likely combinations of publishers, sections within sites, pages within sections, and user segments, wherein such an **ad** network could optimize the ranking of ads for each different combination of **ad** , page, and user segment.

However, in practice, getting a separate measurement of click rate for...

...segments of users and there may be hundreds to tens of thousands of reasonably likely **ads** for that page, so millions of test impressions of that page would be required just...

...too much, since such a system would be sacrificing significant revenue by running too many **ads** that generate too few clicks. And on smaller Web sites with fewer visitors, there simply aren't enough impressions available.
Thus, when estimating ECPM to select **ads**, conventional **ad** networks are limited to using the average click rate of **ads** over the entire network or large subsets of the network, rather than for each combination ...

...vary greatly across combinations, the use of average click rate yields an inferior selection of **ads** for any given page and user.

As a consequence of their reliance on average click rates, conventional **ad** networks will find it difficult to introduce behavioral targeting. Such conventional **ad** networks also find it difficult to accommodate advertisers with very large numbers of **ads**, since each **ad** consumes test impressions in order to measure their click rates.

Features for Judging Relevance. Current advertising technologies are quite limited in how they match **ads** with Web pages and users. There are four main approaches: Matching the demographics of the...

...that of the audience. For example, an advertiser of video games may preferably run its **ads** on sites whose audiences have a disproportionate number of 18-25 year-old males. Sometimes...
...like comScore, is but often it is intuitive. For example, movie advertisers typically run their **ads** in the entertainment section of a Web site.

Matching the text of the **ad** 's keywords with the text of the user's search query or the Web page...

...example, an advertiser of Apple iPods will likely have purchased the keyword "iPod", and its **ad** will run on pages that contain the keyword "iPod" and on search results for user queries containing "iPod".

Observed click rates. As discussed above, conventional **ad** networks typically observe the actual click rate on an **ad** to judge its relevance.

Observed past behavior of users. With behavioral targeting, the past behavior of an individual user is used to predict to which **ads** a user is likely to respond.

For example, a user who has visited auto-buying sites frequently in the past month may be more likely to respond to **ads** for auto loans.
Any one **ad** network typically uses just one or two of these approaches. Large CPM brand advertisers still...

...with keywords purchased by the advertiser and on click rate.

In contrast to such conventional **ad** networks, current state-of-the-art consumer search engines typically use dozens of features to...

...more such variables for judging relevance, as compared to the handful of variables used by **ad** technology. As a result, the results yielded by such search engines are often significantly more relevant than that of the accompanying text **ads** .

Is While the disclosed prior art systems and methodologies provide placement of **ads** within web sites based on a variety of pricing methods, the **ads** often have limited relevance to customers, and require significant effort and expertise from advertisers, thereby minimizing the value of the **ads** to advertisers, publishers, customers and the **ad** network.

It would be advantageous to provide a network **ad** network that combines state-of-the-art search technology with a radically different pricing model, wherein **ads** are much more relevant to consumers, much simpler and more effective for advertisers, and thus...

...and advertiser content, past user behavior, profile information of users, past rates of performance of **ads** , time of day and day of week, and/or many other factors to determine relevance of **ads** to be displayed with publisher content, wherein the relevance is based on a prediction of ...

...by the user. Furthermore, it would be advantageous to select one or more of the **ads** for display with the publisher content based on such a prediction. The development of such...

...and branding impression. A search component integrates contextual, search and behavioral relevance features to optimize **ad** selection for advertisers. An advertiser campaign associated with an advertiser entity typically comprises one or more **advertisements** , such as desired to be placed at one or more other locations across a network...

...and an advertiser's web site associated with a click of one of the placed **advertisements** by the customer user. Through the advertiser interface, an advertiser enters objectives, i.e. desired...
...e.g. a customer purchase or signup, that results from customer selection of a placed **ad** , customer navigation to the web site through the landing page, and a resultant action desired...

...g. price or commission percentage for each of the entered objectives, and one or more **advertisements** , i.e. **ad** creatives. The system automatically analyzes, i.e. configures, the assets associated with the entered advertiser campaign, including the web site and the **advertisements** .

A publisher entity comprises a publisher web site having one or more publisher web pages, which also comprises one or more **ad** spaces. When the enhanced online advertising system receives **ad** request from a publisher associated with placement on a publisher web page, the system retrieves...

...limited to target audience, geographic location, link count, past aggregate click and action rates on **ads** , time of day and day of week, etc. When a user views a web page, an **ad** request is generated, which is matched to results of the analysis associated with the page...

...matched to a profile that represents the user's past behavior, and one or more **advertisements** are selected, based upon a predicted response of the user. The selected **ads** are also preferably ranked, such as by ECPM, where: ECPM = ((Average Cost per Action CPA) x (Number of Actions) x 1000)! (N umber of Impressions Servd) [0 The top ranked **ads** are then returned to the user, i.e. displayed, based upon the available **ad** space. The enhanced online advertising system provides search technology-based relevance, and integrates search, contextual...

...keyword and/or category "hints" may be utilized if available, they are not required. An **ad** having a higher rank gets more play, so an advertiser may increase the rank of a desired **advertisement** , by increasing the bid price and/or improving the quality of the **ad** .

BRIEF DESCRIP TION OF THE DRAWINGS

Figure 1 is a schematic view of graphic display **ads** on a web page; Figure 2 is a schematic view of search-engine **ads** on a search engine web page; Figure 3 is a schematic view of contextual text **ads** on a web page: Figure 4 is a top-level schematic view of a conventional...

...enhanced online advertising system; Figure 13 is a schematic diagram of an input of an **ad** request in an enhanced online advertising system; Figure 14 is a schematic diagram of contextual analysis of a web page associated with an **ad** request; Figure 15 is a schematic diagram of site analysis and integration of secondary data associated with an **ad** request; Figure 16 is a schematic diagram of completion and storage of publisher analysis associated with an **ad** request; Figure 17 is a schematic diagram of a file for a catalog of product assets and associated information; Figure 18 is a process flow diagram for the input, analysis, **ad** generation and **ad** serving for catalog assets in an enhanced online advertising system; Figure 19 is a process...

...in an enhanced online advertising system; Figure 20 is a schematic diagram of an automated **ad** request associated with user activity in an enhanced online advertising system; Figure 21 is a schematic diagram of a match between automated **ad** request and an analyzed page; Figure 22 is a schematic diagram of a match between...

...user profile in an enhanced online advertising system; Figure 23 is a schematic diagram of **ad** selection based upon predicted user response; Figure 24 shows the return of one or more top ranked selected **ads** in an enhanced online advertising system; Figure 25 shows user impression and clicking, linked navigation...

...flow in an exemplary enhanced online advertising system; Figure 30 shows system response to an **ad** request from a target page in an exemplary enhanced online advertising system; Figure 31 shows exemplary **ad** caching in an exemplary enhanced online advertising system; and Figure 32 shows click or beacon request and **Ad** Pause/Delete.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

Figure 1 is a schematic view 10 of graphic display **ads** 22 on a web page 12a. A website 14 typically comprises one or more web...

...exemplary web page 12 seen in Figure 1 also includes one or more graphical display **ads** 22, which often act as links 586 (FIG. 25) to an advertising site 186 (FIG. 6). While the exemplary graphic display **ads** 22 seen in Figure 1 comprise a banner **ad** 22 and one or more other **ads** 22, a wide variety of **ads** 22 may be displayed on the web page 12.

Figure 2 is a schematic view 30 of sponsored link **ads** on a search engine web page 12b. The exemplary search engine web page 12b, such...

...of the web page 12b.
Figure 3 is a schematic view 50 of contextual text **ads** 42 on a web page 12c associated with a news website 14c. As seen in...

...a top-level schematic view of a conventional advertising network 70.

Advertisers 72 associated with **ads** 22,42 typically interact with an **ad** network 74, such as by a submission 80 of one or more **ads** to be placed on web sites 12 associated with one or more publishers 76.

Advertisers...

...a large number to keywords 34 and/or phrases 34 to be associated with each **ad** to be placed, and also typically enter a value, e.g. set or bid price.

The **ad** network 74 places or sends 82 selected ones of the submitted **ads** 188 to one or more publishers 76, who in turn present 84 content and one or more **ads** 188 to consumers 78. Based on selected actions 86 by a user USR 78, such...

...agreement with the advertiser network 74, payment 88 is typically made or credited to the **ad** network 74, responsive to the tracked actions 86. As well, the **ad** network 74 typically compensates the publishers 76 for providing **ad** space 76 that results in actions 84,86.

Figure 5 is a basic schematic view...

...system applications 108. The exemplary system infrastructural components 102 shown in Figure 5 comprise an **ad** generation module 114, a page analysis cache 120, an **ad** serving module 122, and an advertising tracking module 132. The exemplary relevance module 104 comprises an **ad** analysis module 134, a page analysis module 136, an **ad** selection module 152, and an **ad** ranking module 138. As also seen in Figure 5, system applications typically comprise user applications...

...received the page analysis cache 120. In some system embodiments 174, the system 174 provides **ad** generation 114 based on all or part of a catalog 110 that is submitted 112 or otherwise authorized by a publisher 176. The system 174 may also receive previously prepared **ads** 188 from an advertiser 72.

The **ad** analysis module 134 analyzes received or generated **ads** 188, and stores 162 the analyzed **ads** 188 for further use, as shown generally as system storage 106.

The page analysis module...

...as in a publisher analysis database 429. Analyzed publisher pages 12 are provided to the **ad** selection module 152, which selects 508 (FIG. 19) one or more **ads** 188, based at least in part on information accessed 156 from storage 106, to the analyzed pages 116. An **ad** ranking module 138 receives 160 the selected **ads** 188, and ranks 510 (FIG. 19) the selected **ads**, wherein the ranking is preferably based on ECPM, as described below. Based on available **ad** space 184, e.g. 184a-184i (FIG. 6), and on the associated analyzed publisher page 12, one of more of the **ads** 188 having the highest ranking 510 are provided 124 by the **ad** serving module 124, whereby the served **ads** 126 are presented 194 (FIG.

6) in conjunction with the analyzed publisher page 12 to...

...i.e. relevance, component 104 integrates contextual, search and/or behavioral relevance features to optimize **ad** selection for advertisers 72.

Preferred embodiments of the enhanced inline advertising system 174 comprise a...

...pay only for true results 86: a state-of-the-art search technology that predicts **ad** relevance using dozens of pieces of evidence, and increased **ad** coverage via automatic generation of **ads** 188 and the uniform handling of all formats of **ads** 188, including but not limited to text **ads** 618, graphical **ads** 620, hybrid **ads** 622 and rich media **ads** 624, as seen in Figure 26.

Advertiser Interaction with Enhanced Online Advertising System. Figure 7
...

...enhanced online advertising system 174. An advertiser 72 sets 202 objectives 86 associated with an **ad** campaign 222, wherein the objectives 86 comprise desired results, i.e. actions 86. The advertiser
...

...186, and may preferably analyze other information, e.g. such as but not limited to **ad** site analysis, such as provided by the advertiser 72.

Figure 8 is a schematic diagram...associated with an advertiser entity 72 typically comprises a group 240 of one or more **advertisements** 188, e.g. 188a-188n (FIG. 8), such as desired to be placed, i.e...

...campaign 222 also typically comprises an advertiser web site 186, which comprises one or more **ad** web pages 228, wherein at least one of the web pages 228 comprises a landing page 230 associated with selection by a user USR of one of the placed **advertisements** 188, e.g. upon selection of clicking upon a paced **ad** 188, the browser 190 (FIG. 6) associated with a user USR navigates to the associated landing page 230 at the **ad** site 186.

Through the advertiser interface 226, an advertiser 72, such as through an advertiser...

...that results from customer clicking 584 (FIG. 25), i.e. selection 584 of a placed **ad** 188, customer navigation 586 (FIG. 25) to the advertiser web site 186 through the landing...

...or a commission percentage for each of the entered objectives 86, and one or more **advertisements** 188, i.e. **ad** creatives 188.

Bid Pricing in the Enhanced Online **Advertisement** System. In preferred embodiments of the enhanced online advertising system 174, advertisers bid 204 for...
...pay for their respective actions 86. The more the advertiser 72 bids, the more likely **ads** 188 are shown 194 (FIG. 6), and the more actions 86 generated. This bidded market is more efficient at getting advertisers 72 to disclose the true value of the **ads** 188, and thus the enhanced online advertising system 174 is better able to select **ads** 188 that are truly relevant to users USR and profitable to publishers 76.

In some...

...advertising system 174, an advertiser 72 can associate a CPA bid price 252 with an **ad** 188 in variety of ways, such as by a maximum bid CPA 252, a variable bid CPA bid 252 (FIG. 9), an **ad**-based CPA bid 252 (associating a bid with an **ad**), and/or a beacon-s based fixed bid 252 (associating a fixed bid with a...

...advertiser 72 associates a different maximum CPA price 252 with each of a plurality of **ads** 188, e.g. for tens, hundreds, thousands, or millions of **ads** 188. For example, a large retailer 72 may have a to separate **ad** 188 for each of the millions of products 590, e.g. 590a (FIG. 25), in an associated catalog 462 (FIG. 17), wherein each **ad** 188 may have a different associated CPA 252 reflecting the value to the retailer 72...
...goal 86, and may set a single maximum CPA 252 that applies to all their **ads** 188.

With maximum bid CPA 252 in the enhanced online advertising system 174, an advertiser...

...example, in some system embodiments, for any action 86 resulting from placement 194 of an **ad** 188, the system 174 reduces the actual CPA 252 to be paid 594 (FIG. 25...

...one increment more, e.g. one cent more, than the minimum necessary to keep the **ad** 's position, i.e. ranking 510 (FIG. 19) relative to other **ads** 188 on the publisher page 12. Thus, an advertiser 72 can set a maximum bid...

...time how much to pay for an action 86 resulting from placement 194 of an **ad** 188. For example, a retailer 72 may define an "action' 86 to be completing a...

...g. $25US, for each new customer USR who purchases 86 as a result of an **ad** 188, where such a payment, e.g. $25US, represents a portion of the expected lifetime...
...variable CPA 252 more accurately reflects the value of an action 86 resulting from an **ad** 188. For example, a retailer 72 might create two

different **ads** 188 for the same product 590. One **ad** might appeal to price-sensitive customers USR who end up purchasing just the product 590 advertised 188, whereas the other **ad** 188 might io appeal to price-insensitive customers USR who end up purchasing much more...

...advertiser 72 automatically conveys to the system 174 the true underlying value of each different **ad** 188. The advertiser 72 is not required to know ahead of time how much each **ad** 188 is worth, and doesn't need to is measure the value, as the system...

...method, the advertiser 72 knows that the larger its bid 252, the more likely its **ads** 188 will be shown 194 on any given publisher page 12, and if shown, preferably the higher or more visible on the page 12 relative to other **ads** 188. Thus, the more the advertiser 72 bids 252, i.e. agrees to pay 594...

...i.e. configures 208 the assets associated with the entered advertiser campaign 222, including the **ad** web pages 188, landing pages 230, and **advertisements** 188 associated with the advertiser web site 186, and stores 302 the analyzed assets for...
...a large amount of information in regard to their own s perceived relevance of their **ads** 188, and their own perceived relative relevance to possible publisher sites 12, e.g. such as to input a large number of key words associated with **ads** and their respective advertiser web site 186. Existing **ad** technologies require a large amount of manual effort by an advertiser to generate and target **ads** , and the relevance is limited to the expertise of the advertiser 72.

In contrast, the...

...and all content 228,230,188,240 the relevance of the advertiser campaign 222 and **ads** 188 are automatically determined. As will be described below, overall relevance in the enhanced online...

...of relevance, such as including relevance to publisher assets and relevance to users USR.

Publisher **Ad** Site Interaction with Enhanced Online Advertising System.

Figure 12 is a process flow diagram for publisher **ad** calls 400 in an enhanced online advertising system 174. One or more **ad** requests 402 are automatically generated from the browser 190 at a user device 78, when...
...visits a web page 12 at the publisher web site 14, in response to available **ad** space 184 (FIG. 6) on the corresponding publisher web page 12.

If a determination 414...

...be fresh, i.e. current, the system 174 may proceed to determine 418 the best **ad** 188 or **ads** to serve 194, such as seen in process 500 (FIG. 19).

If the determination 414...

...be fresh, i.e. current, the system 174 may preferably proceed to serve 416 an **ad** 183 of general relevance during a first **ad** call 402, until

contextual analysis 404 can be performed. In some system embodiments 174, ads 188 that are determined to be of general relevance are selectable by publishers 76, wherein the system 174 allows each publisher to define one or more default ads 188. The system 174 can then show one or more of the default ads 188 for any publisher page 12 that hasn't yet been analyzed, until the system 174 has finished analyzing the page 12. Some system embodiments 174 may alternatively select general ads 188, based on the title of the page 12, which can be passed in the ad call 402, and/or based on one or more other feature elements associated with the...

...provides an automated contextual analysis 404 of the web page 12 corresponding to the available ad space 184. The system 174 also preferably provides secondary analysis 406 of other relevant publisher...

...information 412.

Figure 13 is a schematic diagram 420 of an input of a publisher ad request 4Q2 in an enhanced online advertising system 174. An ad call 402 from a publisher web site 14 is received by the enhanced online advertising...

...schematic diagram 430 of contextual analysis 404 of a web page 12 associated with an ad request 402 in an enhanced online advertising system 174. Figure 15 is a schematic diagram 440 of site analysis and integration of secondary data associated with an ad request 402 in an enhanced online advertising system 174. Figure 16 is a schematic diagram 450 of completion and storage 412 of publisher analysis associated with an ad request 402 in an enhanced online advertising system 174, including the results of the contextual...
...and associated information. Figure 18 is a process flow diagram 470 for the input, analysis, ad generation and ad serving for catalog assets in an enhanced online advertising system 174.

The exemplary file 460...

...even millions of products 590, whereby the application of human expertise in the establishment and **promotion** of more than a limited percentage of a catalog 462 is often unfeasible or impossible...

...590, whereby a catalog file 460 may be received and automatically analyzed, to automatically produce **advertisements** 188 which may be efficiently stored and served by the system 174.

As seen in...

...assigning 204 (FIG. 9) corresponding bids 252 (FIG. 9).

The bid price 252 of an ad 188 is preferably assigned from a price field 466, e.g. is 466e, in the catalog 462. This is important for both ad -based CPA bids 252 and commission-based CPA bids, both of which require that each ad 188 have an assigned CPA 252.
An advertiser 72 can preferably send new versions of...

...462 are new, which have been modified, and which have been deleted, and updates the ads 188 accordingly.

The system 174 preferably performs an analysis 208 of the content 466 of
...

...all product fields 466, e.g. such as fields 466 to be included in the
ad 188, as well as other field information 466. The analysis 208 may
also preferably comprise...

...or other advertiser web pages 228.

The system 174 then typically produces, at step 114, ads 188 for the
analyzed assets 590, i.e. products 590. As seen in Figure 18...

...system 174 may also determine an appropriate format 476 for one or more
of the ads 188 for an advertiser 72, such as to apply an ad template
482. The determination of ad formats 476 may preferably include input
from any of the advertiser 72, a secondary source 478, e.g. such as an
ad design firm associated with the advertiser 72, internal ad format
input 480, e.g. such as to provide one or more ad styles, and in some
system embodiments 174 may also receive input from content analysis 208
...

...item 590, and transforms one or more of the fields 466, such as with an
ad template 482, to produce a corresponding catalog ad 188.

As also seen in Figure 18, the system 174 similarly stores 302 the
catalog ads 188, and can integrate and serve 194 the ads 188
alongside other submitted ad Is creatives 188 as desired, as shown
schematically by the ad serving module 122.

User Interaction with the Enhanced Online Advertising System. Figure 19
is a...

...USR navigates 502 to view a publisher page 12 through a user terminal
78, an ad request 402 is generated and sent to the system 174. The
automated ad request 402 is then matched to the stored analysis results
412 associated with the viewed...

...524, stored in a profile database 522.
One or more of the best available stored ads 188 are selectively
determined 508, based on a prediction of effective impression revenue of
the ads (ECPM), which is preferably a function of the stored analysis
results 412 and/or the matched profile 52. One or more of the top ranked
ads 188 are then returned 512 to the user terminal 78 for served display
194 (FIG...

...to the determination step 508.

Figure 20 is a schematic diagram 520 of an automated ad request 402
associated with user activity in an enhanced online advertising system
174. For example...

...USR navigates 502 to view a publisher page 12 through a user terminal
78, an ad request 402 is generated and sent to the system 174.

Figure 21 is a schematic diagram 530 of a match 504 between a received
automated ad request 402 and stored analysis results 412 associated

with the viewed page 12, which may...

...the system 174.
Figure 23 is a schematic diagram 560 of selective determination 508 of ads 188, which is preferably based upon either predicted or observed effective impression revenue of the ads (ECPM)I in an enhanced online advertising system 174.

Figure 24 is a schematic diagram 570 that shows the return of one or more top ranked selected ads in an enhanced online advertising system 174.

For ads 12 that appear very frequently on publisher pages 12 that get lots of traffic, the system 174 may preferably use observed action rates 86 of the ad 188 on those pages 12, such as in preference to predicted action rates.

For ads 188 that appear very frequently on publisher pages 12 that get lots of traffic, i.e. clicks 584, the system may preferably incorporate observed action rates 86 of the ads 188 on those pages 12 in addition to the predicted action rates 86. In such...

...86 may often be more accurate.

For each such pair of target page 12 and ad 188, the system 174 preferably tracks the past number of impressions 572 and resulting actions...

...25, when a user is USR navigates 502 to a publisher page 12 having available ad space 184, the system 174 presents, i.e. serves 194 one or more ads 188, based upon effective impression revenue of the ads (ECPM).

A user USR may then.select, i.e. click 584 on a served ad 188, typically by a user input 582, such as in response to an impression 572
...

...593 seen in Figure 25, for a user USR who initially clicks 584 on an ad 188 to navigate to an advertiser site 186, and who at a later time, e...

...specify the number of days that can elapse between the user clicking 584 on an ad 188 and then coming back to the advertiser's web site 186 to complete the...

...days, such that as long as a user USR who clicks on the retailer's ad 188 makes a purchase within 45 days, the system 174 gets credit, e.g. payment...
...regarding a product 590a, e.g. such as a bicycle 590a associated with the served ad 188.

For products 590 associated with catalog ads 188, the text copy, images, and purchase information may typically correspond to field information 466...

...four purchased products 590, such as the bicycle 590a directly associated with the served 194 ad 188, a related helmet product 590b, as well as 2 bike jerseys. Based upon the entered bid 252 and bid type,

e.g. percentage or commission of the **ad** item 590a or of the entire shopping cart 588, a payment, credit or similar transaction...

...the system 174, typically for compensation related to placement, i.e. serving 194 of the **ad** 188.

As seen in Figure 25, the enhanced online advertising system 174 greatly simplifies the generation and targeting of **ads** 188, and provides significantly greater **ad** relevance for served 194 **ads** 188, resulting in **ads** 188 that are more meaningful to consumers USR, more effective for advertisers 72, and thus more lucrative for publishers 76.
While existing **ad** technologies require a large amount of manual effort to generate and target **ads**, they provide at best mediocre relevance. In contrast, the enhanced online advertising system 174 simplifies the generation and targeting of **ads** 188, and also provides significantly greater **ad** relevance for **ads** to be served 194, resulting in **ads** 188 that are more meaningful to consumers USR, more effective for advertisers 72, and thus...

...and pay only for true results; a state-of-the-art search technology that predicts **ad** relevance using dozens of pieces of evidence; increased **ad** coverage via automatic generation of **ads** and the uniform handling of text and graphical **ads**; and a pricing model based upon bidded cost per action (CPA) pricing.

In the enhanced...

...cost per action" (CPA), which may include but is not limited to a cost per **ad** impression (CPM) or a cost per **ad** click (CPC). With CPA pricing, the advertiser 72 pays for consumer "actions" 86 resulting from the **ads** 188 that are meaningful to their business and are measured easily. Typical actions 86 comprise...
...an advertiser 72. For example, an advertiser 72 can effectively choose to use cost per **ad** impression (CPM) or cost per **ad** click (CPC), such as by defining a desired action 86 associated with an **ad** to be viewing or clicking on the **ad** 188.

CPA pricing has long been attractive to direct-response advertisers, those who justify the...

...results. With CPM or CPC pricing, the advertiser 72 must work hard to target the **ads** 188 and measure their effectiveness, so as not to waste money on impressions or clicks that don't generate business. With CPA pricing, the **ad** network 174 assumes all the risk of targeting the **ads** 188, measuring their effectiveness, and generating revenue 596 for publishers 76. Advertisers 72 do not...

...72 are typically only required to pay for actual business results.

A number of existing **ad** networks provide CPA pricing, but with significant limitations. With such conventional networks, CPA prices are
...

...network and the advertiser, resulting in inaccurate estimates of the effective impression revenue of the **ad** (ECPM). Since ECPM is typically used for selecting **ads** to be displayed, the inaccuracies result in

suboptimal relevance for the consumer and revenue for...

...networks generally have a single, uniform CPA price applied to the entire run of an **ad** throughout the network.

Measuring Actions. The enhanced online advertising system 174 provides the advertiser 72...

...several mechanisms widely used in the industry for associating actions with impressions or clicks of **ads** and counting the resulting actions.

The enhanced online advertising system 174 typically provides two kinds ...

...8), such as using images and/or JavaScript. The beacons 234 are placed on an **ad** web page 228, typically on a confirmation page 232 associated with an action 86 selected...

...of an action 86. The system 174 typically associates the action 86 with either an **ad** impression 572 or click 584, using system cookies 191 (FIG. 6) that were set in the user's browser 190 when an **ad** 188 for that advertiser 72 was displayed or clicked.

A JavaScript beacon 234 is a...

...browser 190 for system cookies 191, in order to associate the action 86 with an **ad** impression 572 or click 584.

The system 174 can also utilize some kinds of third...

...some system embodiments 174 add a unique code in the landing-page URL of an **ad** 188 that identifies the particular click-through 584. The advertiser's web server 186,224...publishers 76 by withholding some or all beacons 234 acknowledging completed actions 86 for an **ad** 188, the advertiser 72 is inherently only cheating itself. For example, in such an event...

...of actions 86 has fallen, and thus computes a lower ECPM ranking 510 for the **ad** 188, whereby the **ad** 188 is then less likely to be displayed 194, if at all. An advertiser 72 therefore inherently lowers the bid price 252 associated with an **ad** 188 by attempting to cheat on the reporting of beacons 234.
Similarly, if a variable...

...advertising system 174, such an advertiser 72 simply lowers the expected CPA 252 from the **ad** 188, and thus the **ad** 's ECPM ranking 510, whereby the **ad** 188 is less likely to be shown 194.

Click Fraud versus CPA Fraud. As discussed previously, click fraud is a serious problem for **ad** networks using CPC pricing. For example, it's very easy for a fraudster using off-the-shelf software to generate tots" that repeatedly click on **ads** 188, thereby sapping the budgets of advertisers 72 and possibly generating fraudulent revenue for unscrupulous...

...by only recognizing a small number of actions 86 to be recorded for each

unique **ad** click 584 (FIG. 25) or impression 572 (FIG. 24). When the
enhanced online advertising system 174 serves an **ad** click 584 or
impression 572, the system 174 typically writes a system cookie 191,
containing...

...coupon download. Such a fraudster may attempt to write a bot that clicks
on an **ad** 188 and then clicks on the associated beacon 234. As before,
simple IP-address filtering...
...mechanism that verifies if a human USR, rather than a bot, is
interacting with its **ad** Web pages 228 (FIG. 8).

For example, CAPCHAs often require the user USR to enter...

...State-of-the-Art Search Technology. The enhanced online advertising
system 174 displays highly relevant **ads** 188 to users USR by applying
state-of-the-art search technology. To select **ads** for a publisher web
page 12 and a user USR, the enhanced online advertising system...

...real time, or to search and then briefly cache 635 (FIG. 30), through
millions of **ads** 188 to find the few **ads** 188 that are most relevant to
display 194.

Defining Relevance in the Enhanced Online Advertising System. The
enhanced online advertising system 174 preferably defines the relevance
of an is **ad** 188 for a given context to be exactly the effective
revenue, e.g. the ECPM, which the enhanced online advertising system 174
expects to receive if it displays the **ad** 188 in that context.

An **ad** 188 by its very nature represents a commercial exchange with the
user USR. An **ad** 188 is therefore important to the user USR to the
degree that the user USR finds it useful in completing a commercial
exchange. If a consumer USR clicks an an **ad** 188 she or he thinks is
interesting but then fails to complete the exchange, then most likely
that **ad** 188 is not of ultimate value to the consumer USR. That is, the
more likely...

...consumer USR is to complete a commercial exchange, i.e. an action 86 via
an **ad** 188, the more value the **ad** 188 has to the consumer USR, and the
higher the effective revenue.

As well, a...

...purchasing a $30, 000 car than a $10 book. The CPA price 252 of an **ad**
188 is typically directly proportional to the value of the commercial
exchange 86. Thus, the...

...higher the effective revenue.

Thus, both the rate at which consumers USR respond to an **ad** 188 and the
monetary value of the **ad** 188 determine the importance of the **ad** 188
to the consumer 188. Therefore, in preferred embodiments of the enhanced
online advertising system 174, factors that determine the effective
revenue of an **ad** 188 are dependent on both the rate at which consumers
USR respond to an **ad** 188 and the monetary value of the **ad** 188.

Relevance and Relevance Features in the Enhanced Online Advertising

System. Some conventional **ad** technologies typically require test campaigns to measure how well an **ad** 188 performs in a given context. Such testing often limits the relevance of the **ads** 188, the number of **ads** 188, and the number of is publisher pages 12 that can be effectively targeted.

In...

...the enhanced online advertising system 174 is able to predict the revenue related to an **ad** impression 572 for an **ad** 188 that has never even been seen before, in a context, e.g. a publisher...

...be scaled to provide highly accurate and relevant targeting for virtually an unlimited number of **ads** 188 and publisher pages 12 and users USR. Advertisers 72 can freely generate many different **ads** 188 to accomplish the same goal, such as to find out which **ads** 188 work best in which contexts, at a cost much lower than other **ad** solutions. As well, the enhanced online advertising system 174 preferably provides a predictive technology that is based on machine learning 516 (FIG. 19). While traditional **ad** solutions typically use only a few variables, such as key words and phrases manually entered...

...the system 174 provides feedback 518 (FIG. 19), to improve the predicted response of selected **ads** 188, at step 508 (FIG. 19).

Machine learning 516 produces a function P that preferably takes as input all of the "relevance features" of the **ad** 188, the advertiser 72, the target page 12, the publisher 76, and the user USR, and predicts the probability that the user USR will take action 86 on that **ad** 188 in that context. These features are represented as a feature vector 814 (FIG. 29...

...large number, e.g. 100K or more, of examples, where each example corresponds to an **ad** 188 presented in a context to a user USR, and whether or not the user...

...of 0 (no action) or 1 (action).

The training data 132 preferably comes from the **ad** network 174 itself, by randomly sampling the examples from the millions of presentations 194 of **ads** 188 the network 174 makes every day.

The machine-learning algorithm 516 is retrained frequently...

...text features and behavioral features, e. g. past behavior of users, to determine and present **ads** 188 having the greatest predicted value to each user USR. In addition, machine learning allows...

...system 174 may preferably consider term matches between a publisher site 12 associated with an **ad** call 402, and advertising sites 186 associated with **ad** creatives 188, wherein the term matching may consider any of: * one or more levels of...

...the system 174, such as automatically constructed, i.e. clustered categories, and/or manually constructed **ad** vertical categories. In some system embodiments 174, categories are represented by any of a simple...

...into account the past aggregate action rates on each pair of target page category and ad category.

Category matching in the enhanced online advertising system 174 may also take into account...

...concept extraction and matching, such as for between any of a target page 12, an ad creative 188, such as comprising ad fields, e.g. ad copy 466, and a landing page 230. As well, the system 174 may provide paragraph...

...may also be used by the system 174 in regard to the position of available ad space 184, such as at the top, right, left, or bottom of a publisher page...

...system embodiments 174, action histories comprise any of: * Number of clicks per {page, publisher) and { ad , advertiser) pairs; * Number of actions per {page, publisher} and { ad , advertiser) pairs; and/or * Revenue per {page, publisher) and { ad , advertiser} pairs.

Furthermore, some embodiments of the enhanced online advertising system 174 may preferably consider...

...user USR may be determined to be relevant in conjunction with the past performance of ads 188 by the advertiser 72, e.g. the system may observe a distribution of the response to an advertiser's ads 188 by geographic location, using the IP address of the users USR who have completed...

...user USR. Such location-based relevance may preferably be used for advertisers 72 and/or ads 188 that have a geographic appeal, such as for ads 188 for a service-based company that are particularly relevant to regions in which the...

...embodiments of the enhanced online advertising system 174, every time the system 174 receives an ad call 402 from a publisher page 12, the system 174 conducts a real-time auction among advertisers for the ad slots 184 (FIG. 6) on the page 12. The advertisers' ads 188 that will deliver the greatest revenue per ad impression (RPAI, what the industry calls ECPM, or cost per thousand impressions 572) are chosen...

...based on an estimation of the probability that an action 86 will occur given an ad impression 572 (FIG. 24).

In preferred system embodiments of the enhanced online advertising system 174...

...maximum CPA 252 for an action 86. As well, for actions 86 associated to an ad click, the total CPA the advertiser 72 actually pays is reduced from the maximum to an incremental value more than that needed to maintain ranking for the ad 188 above the next highest-ranked ad 188.

Setting CPA Bids. The system typically measures actions using beacons 234, and advertisers 72 associate CPA bids 252 for actions 86 with the

corresponding beacons 234. For a given **ad** campaign 222, the system 174 preferably provides advertisers 72 with different selectable methods for assigning CPA bids 252 to actions 86, such as by **ad** -based CPA 252, beacon-based fixed CPA 252, or beacon-based commission CPA 252.

Ad -Based CPA. In **ad** -based CPA bidding 252, there is one beacon 234 in the campaign, and a CPA bid is assigned to each **ad** within the application.

Whenever an **ad** 188 is clicked and eventually triggers a beacon 236, the system 174 uses the assigned CPA of the **ad** 188, times a bid factor associated with the **ad** 188, as the CPA bid 252 for the beacon 234.

is For example, for a...
...beacon 234 on their confirmation page 232, the retailer can pay different CPAs 252 in **ad** -based CPA 252, based on the likely product 590 that is purchased, whereby actions 86 are associated to the most recent **ad** 188 clicked.

Beacon-Based Fixed CPA. In beacon-based fixed CPA bidding, there are multiple...

...252 is determined to be the amount assigned to the beacon 234, times the associated **ad** 's bid factor.

For example, an exemplary private search entity 72 may have three different...

...as a different amount 252 by the entity 72. A user USR clicking on an **ad** 188 could end up generating one or more of the actions 86, and different **ads** 188 may lead to different average mixes of actions, e.g. one **ad** 188 can drive users USR primarily to the download, while another **ad** 188 can drive users USR primarily to an email list.

Beacon-Based Commission CPA. In beacon-based commission CPA bidding, there is one beacon 234 in the **ad** campaign 222, and the total value of the action 86 to the advertiser 72, such...

...CPA bid 252 is equal to that value, times the bid factor of the associated **ad** 188..

For example, a sophisticated retailer 72 may want to assign a "true value" to...

...in the shopping cart 588, and pay for the advertising accordingly, such as for some **ads** 188 that statistically yield a larger-value shopping cart 588 than other shopping carts 588...

...above, the system 174 allows the advertiser 72 to associate a "bid factor" with an **ad** 188, the **ad** group 240, or the campaign 222. A bid factor allows the advertiser 72 to make instant adjustments to CPA bids 252, without reloading **ad** catalogs or changing server-based business rules setting commission CPA 252. For example, a catalog retailer 72 using **ad** -based CPA 252 can assign the list price 466d (FIG. 17) of each item 590 being advertised to the corresponding **ad** 188. The retailer 72 can then set a bid factor to be a percentage of...

...number of actions 86 from any one beacon 234 that canbe associated with a single **ad** click. This "action cap" defaults to 1. When the action cap is set greater than 1, a variable number of actions 86 can be associated with an **ad** click, and thus the total CPA associated with the **ad** .click is variable.

Similarly, with commission CPA 252, the total CPA associated with an **ad** click is variable.

Estimation of RPAI. As noted above, the system 174 may preferably rank each **ad** 188 according to the estimated effective revenue the system 174 will receive by displaying the **ad** (RPAD. The system 174 estimates an **ad** 's RPAI as the probability of a user USR taking at least one action 86 on the **ad** 188, times the estimated total likely bidded CPA (TLBC) that the advertiser 72 is willing to pay for actions resulting from the **ad** 188, as shown: RPAI(**ad**) = Practions >>= 1 I **ad** shown on target page) * TLBC(**ad** The probability of at least one action 86 occurring from the **ad** 188 is preferably estimated by a machine-learned model, and refined by observations.

Estimation of the total likely bidded CPA resulting from actions 86 associated to an **ad** 188 is not always straightforward, since multiple actions 86, and actions 86 with varying CPA, can be associated with a single click on an **ad** 188. As well, different **ads** 188 can drive much different mixes of actions 188 and varying CPA 86. For example...

...such as to avoid an overestimation of the maximum CPA that could over rank the **ad** 188.

For **ads** 188 that generate a large number of actions 86, the system 174 may preferably estimate TLBC based on past history of the **ad** 188. However, many **ads** 188 do not have enough actions, or any actions at all, for the system 174...

...a valid average. In such cases, the system may preferably estimate the TLBC for an **ad** 188 from aggregate behavior of all **ads** 188 in the same **ad** campaign 222.

The formulae for the estimates of TLBC are based on the application-assigned CPA of **ads** and beacons, which allows the advertiser to adjust those assigned CPAs up or down and...

...a different way of estimating TLBC. The estimates below use observed data for an individual **ad** 188 or, if there isn't enough such data, the observed data for the containing...
...FIG. 8).

As well, sophisticated estimates can be made by using observed data from the **ad** group 240 (FIG. 8), from the advertiser 72, from similar advertisers 72, and/or from similar **ads** 188 with other advertisers 72.

Estimation of **Ad** -Based CPA. In **ad** -based CPA, the estimated total likely bidded CPA (TLBC) is defined as the assigned bid 252 of the **ad** 188, times the average number of actions associated with each **ad** impression generating at least one action: TLBC(**ad**) assigned CPA(**ad**)

* action
rate(**ad**) * bid
factor(**ad**) where number of actions triggered by **ad** action rate(**ad**)
= .-number of clicks on **ad** generating at least 1 action In situations
where there aren't enough action-generating clicks on **ad** 188 to get a
statistically valid average, e.g. if the denominator is & lt; 10...

...campaign 222 may preferably be used instead, as shown: number of actions
triggered by any **ad** action rate(campaign) = . . number of clicks on any
ad generating at least 1 action If the denominator is < 10, the action
rate for the campaign is 1. Note that if the action cap is 1, action
rate(**ad**) is always 1.
Estimation of Beacon-Based Fixed CPA. In a beacon-based fixed CPA...

...likely bidded CPA (TLBC) is defined as the sum, over all beacons 234 for
an **ad** campaign 222, of the CPA of the beacon 234, times the average
rate at which the beacon 234 is triggered for that **ad** 188, as shown:
TLBC(**ad**) = bid factor(**ad**) * assigned CPA(beacon) * action
rate(beacon, **ad**) Every beacon in the advertiser where: number of
actions 011 beacon triggered by **ad** action rate(beacon, **ad**) =-number
of clicks on **ad** generating at least I action If there aren't enough
action-generating clicks 86 on **ad** 188 to get a statistically valid
average, ag. if the denominator is < 10, then the...

...may preferably be used instead, as shown: number of actions on beacon
triggered by any **ad** action rate(beacon, campaign) .-number of clicks on
any **ad** generating at least 1 action If the denominator is < 10, the
campaign action rate for...

...pricing method, the system 174 requires advertisers 72 to assign a CPA
252 to each **ad** 188, as well as pass a total value in the associated
beacon call 234. The...

...system 174 as a commission. The estimated TLBC is therefore the assigned
CPA of the **ad** 188, times a bid adjustment factor, as shown: TLBC(**ad**)
= assigned
CPA(**ad**) * adjustrnent
factor(**ad**) * bid
factor(**ad**) The bid adjustment factor for beacon-based commission
pricing represents how much the shopping cart 588, e.g. all actions or
purchases 86 that are triggered by an **ad** 188, typically differs from
the assigned CPA of the **ad** 188, as shown: assigned CPA(action) Every
action triggered by **ad** adj ustment tactor(ad) = assigned CPA(**ad**) at
time of click Every click on **ad** generating at least I action wherein
the assigned CPA(action) is the value passed to...

...72 on the beacon call 234. If there aren't enough action-generating
clicks on **ad** to get a statistically valid average, e.g. if the
denominator is < 10, then an...

...preferably be used instead, as shown: ass igned CPA(action) Eveiy action
triggered by any **ad** adjustment factor(campazgn) = . assigned CPA(**ad**)
at time of click Every click on any **ad** generating at least 1 action If
the denominator is < 10, the adjustment factor for a...

...86, as shown: * action id; * click Id; * adid; * campaign Id; * time of

click; * asSigned
CPA (ad) at time of click; and * assigned
CPA (action).

Since actions 86 are relatively rare events...

...such as by maintaining in a database the summaries of the numerators and denominators for ads 188 and campaigns 22, covering the time period of the moving average. Periodically, such as...N days ago are removed from the summaries.

For an exemplary system 174 that has ad calls per month, such a system 174 may have approximately iu actions per month, or...

...4 I' I:fl 1 I' a day. Thus, there would be at most i05 ad summaries maintained at any one time, and at most 60K action records to process on a daily basis, e.g. every night.

The ad -level averages are preferably reset whenever the text of the ad 188 or its landing page 230 change. The campaign-level averages are preferably reset whenever a campaign changes "significantly", e.g. when more than 25% of the ads 188 have had their averages reset. The system 174, such as through client services, preferably includes means to reset the averages of ads 188 and/or io campaigns 222, such as by commands or controls.

In some system...

...that they will pay a CPA for one or more actions 86 associated with an ad 188, which are just high enough to maintain the ad 's ranking 510 above the next highest-ranked ad 188.

When an ad 188 is displayed 194, the system 174 computes an estimated reduced bid amount that the advertiser 72 should pay for actions 86 associated to that impression of the ad 188, using the following formula: (TLBC(ad), reducedCPA(ac) = rninPr(action I ad ,) * TLB (ad2) /Pr(action I ad1) + $0. 10 where ad2 is the next-highest ranking ad after ad . The system 172 then preferably discounts all actions resulting from that impression of the ad 188, such as by the following factor: reduced CPA(ad) discount factor(ad1) = TLB(ad1) The discount factor and the bid factor are recorded in the redirect URL of the ad 188 and then in the user cookie 191, when the user clicks on the URL...

...72 is invoiced for the action 86 with the discount applied as shown:
discount
factor(ad) * assigned
CPA(action) * bid
factor(ad) is Details of Advertising Entities in the Enhanced Online Advertising System.

Figure 26 is a...

...hierarchy 600 of the entities in the system used to represent advertising agencies, advertisers, and ads . An agency 602 may typically be associated with or comprise a group 604 of one...

...or more campaigns 608 are associated with an advertiser 604. As well, one or more **ad** groups 616 are typically associated with each campaign 608, wherein the **ad** group 616 typically comprise any of one or more text **ads** 618, graphical **ads** 620, hybrid **ads** 622, or rich media **ads** 624. A beacon library module 610, a creative library module 612, and a performance report...

...stored at a cluster-accessible storage, e.g. such as DB, NFS, SAN or similar. **Ad** serving is preferably de-coupled from **ad** management, such as if the **ad** management system goes down, the **ad** server 636 can continue to function. As well, **ad** serving and **ad** management preferably have different uptime requirements.

As seen In Figure 27, a front-end/API...

...FIG. 5). The front end server 632 also typically supports API-based manipulation of the **ads** 188 and other business objects.

One or more query coordinators 634, i.e. QC servers 634, distribute browser, i.e. runtime **ad** requests 402 across the **ad** servers 636. An **ad** server 636 searches a subset of the **ads** 188 in response to requests from the query coordinator 634, and returns 914 (FIG. 30) the best **ads** 188 for the associated request 908 (FIG.

30) to the query coordinator 634.

A presentation server 638 accepts **ad** requests 402 from the network and forwards them to the query coordinator 634. The presentation server 638 also formats **ads** 188 that are selected by the query coordinator 634 with snippets of HTML. The presentation...

...it tracks the invocations of beacons 234.
An observation server 640 monitors the budgets for **ads** 188 and **ad** campaigns 222, click-through rates, click-to-action rates, and coordinates pausing/stopping **ads** 188 in the system 174.

As well, a distribution server 702 (FIG. 28) acts as a propagator of new and updated **ads** 188 and their feature vectors 814 (FIG. 29) to the rest of the system 174...

...reads and writes business objects in the system 174, such as but not limited to **ads** 188, accounts, and/or bills.

While the business objects/O-R service 652 is not...

...enhanced online advertising system 174, which provides the following process interactions between various logical processes: **Ad** Creation Request. An advertiser 72 creates an **ad** 188. The front-end code, e.g. such as running inside a tomcatbased front end server 632, receives the **ad** 188 and typically uses an O-R mapping layer to save the **ad** 188. The front end server 632 then publishes a transactional message that an **ad** 188 was created and that the **ad** 188 requires approval, such as by an approval task server 642b.
Ad Approval Request is Picked Up by the Task Server. One of the task servers 642...

...server 642a, may first need to fetch the landing page 230 (FIG. 8) for the ad 188, such as if the content 16 on the landing page 230 requires additional analysis...

...FIG. 11). After the landing page 230 is crawled 804, a new request 806 for ad approval is generated.

The ad approval request message 806 is executed by one of the task servers 642, e.g. 642b, running approval tasks, which evaluates the ad 188 for consistency with publishing guidelines. An ad 188 may also be randomly selected for manual review, which results in the ad 188 being placed on the manual reviewer's queue of ads 188 to be looked at.

If the ad 188 is approved, an ad analysis request message 808 is published as needed, such as by the approval task server 642b, to announce that a new ad 188 that hasn't been analyzed 208 (FIG. 7; FIG. 11) currently exists on the...

...174. A task server 642, e.g. an analysis task server 642c, that responds to ad analysis and/or page analysis requests, picks up this ad analysis request message 808. The analysis task server 642c typically analyzes and classifies ad 188, and computes other ad features. The analysis task server 642c then marks the analyzed ad 188 as ready for serving 194, and publishes a new ad available message 810, and/or other corresponding new ad information 812, such as but not limited to the selected action 86 and/or associated ad budgets.

The distribution server 702 and observation server 640 pick up the new ad information 810,812. The distribution server 702 then propagates the new ad feature vectors 814 to the appropriate ad server 636 that should have this new ad 188. As well, the observation server 40 is made aware 812 of the new ads budget and initial observed CPA, such as in case of a modified ad 188, so that the observation server 640 can stop the ad if 188 the budget is exceeded.

Run-Time Ad Requests. Figure 30 shows system response 900 to a browser ad request 402 from a target page 12 in an exemplary enhanced online advertising system 174. When a target page 12 at a user terminal 78 requests 402 an ad 188 to be displayed 194 (FIG. 6), the presentation server 638 computes the hash function...
...coordinator 634. The query coordinator 634 either has the cached results 914 of a previous ad call 402 for this target page 12, or asks 908 the ad server cluster 636 to compute the results. In the case when a computation is necessary, the query coordinator 634 may preferably first return some default best performing ads 188, and then in a separate thread, initiate the ad scoring coordination process. First the query coordinator 634 looks up the features for the target page 12 at the distribution server 702. Then the query coordinator 634 elects an ad server cluster 636 on which to execute the query and call them with the feature...

...12. Then the query coordinator 634 typically waits an incremental amount of time for the ad servers 636 in the cluster to finish, and merges the results, while keeping a small number of the most relevant ads 188. The query coordinator 634 also typically requests the ad copy for this very small number of relevant ads 188 from the ad server 636. The query

coordinator 634 then caches the results for an incremental period of...

...this target page 12 is received, the query coordinator 634 already has the most relevant **ads** in its cache. The query coordinator 634 may preferably rotate through the best performing **ads** , such as to return one or more, e.g. 1 to 5, of the selected and ranked **ads** 188 to the presentation server 638 for HTML generation.

Every time the presentation server 638 includes an **ad** 188 in HTML 920 (FIG.

30) to be displayed 194, the presentation server 638 also...

...log. The log is periodically rotated. The impression log is used primarily for building the **ad** selection model, where a sample of the log records suffices. Therefore, it is not necessarily...

...log records all the time.

The presentation server 638 transmits, i.e. flushes, the per- **ad** impression counts 902 (FIG. 30) to the observation server 640, and may also preferably remove...

...keep observed CPA information in memory, and periodically send updated aggregate information 904 to the **ad** servers 636 themselves. The **ad** servers 636 then preferably use the refined numbers 904 to come up with more appropriate **ads** 188.
Click or Beacon Request and **Ad** PauseIDelete. Figure 32 is a schematic diagram 940, which shows click or beacon requests and **Ad** Pause/Delete functionality in an exemplary enhanced online advertising system 174. When an **ad** 188 is clicked on 942, the click 942 is preferably load-balanced 710c (FIG. 28...

...request information necessary to close the loop, e.g. such as but not limited to **ad** id, advertiser Id, and/or cookies. Immediately after the request 942 is decoded, the redirector...

...instantly, while impression data 86 may be batched. Observation servers 640 keep counters on each **ad** 188 they see on valid impressions, clicks and actions 86, which are referred to as an **ad** I.O.C. triple 86. The observation servers 640 in turn make decisions, such as if the **ad** 188 should be allowed to play or if the **ad** 188 should be paused 950. In addition, observation servers 640 propagate the recomputed observed CPA rates 952 to the **ad** servers 636 themselves, such as instantly when a click or action occurs, and/or batched, such as for **ads** 188 with impressions only.

If an **ad** action sends the campaign 222 or **ad** budget over the daily maximum, the appropriate observation server 640 generates a pause message 950 that is sent to the **ad** servers 636 as well as the query coordinators 634, wherein **ad** servers 636 preferably no longer score the **ad** 188 until'a next allowed time period, e.g. the next day, while the query coordinators 634 check what **ads** 188 are paused 950 before serving **ads** 188 from their cache.

When an **ad** 188 is deleted or paused by the advertiser 72, such as

through an the advertiser...

...server 640 similarly receives the message, and is responsible for pausing or stopping 950 the **ad** 188 from being played.

Ad Scoring Details. At the core of the system 174 the **ads** 188 are scored, such as by models that predict the RPAI of showing the **ad** for a given target page 12 and user USR, where the RPAI is estimated as the probability the user USR will take action on the **ad** times the total likely bidded CPA of the **ad** : RPAI(**ad**) = Pr@ctions >>= 1 **ad** shown on target page) * TLBC(**ad**) The probability of action 86 is estimated using a machine-learned model that takes as input a relevance feature vector 814 (FIG. 29) that measures various attributes of an **ad** 188 and the context of where the **ad** 188 is being shown and the user USR it is being shown to. The relevance features 814 can be grouped into the following categories:

Feature Range I Description

. **Ad** /Landing Page Features from the **ad** or landing page.

Target page Features from the target page Target page / **Ad** / Features that computed by combining the target page Landing Page features and **ad** , for example term match features User-dependent Features that depend on the particular user viewing...

...behavior of the user To avoid execution of the most time-consuming model on each **ad** 188 when a target page request 402 comes in, a number of heuristics is pursued...

...system 174 typically provides multi-model scoring, using an iterative application of models to possible **ads** 188 for a particular target page 12.

Multi-model scoring is a process of applying different models to set of **ads** 188.
Each model reduces the set of **ads** 188 to a small number of final **ads** 188. Each model is more expensive to apply.

Given a target page 12, the first...

...any of exclusions, out of budget constraints and other constraints, to reduce the pool of **ads** 188 to a smaller pool of **ads** 188 that are to be scored further. The output of this model is 0 or 1, depending on whether the **ad** 188 is allowed to be used in further scoring.

Next, a second "cheap" model is applied to each of the remaining **ads** . The cheap model is a machine-learned model using a very small number of relevance...

...to make a rough estimate of RPAI. A small percentage, e.g. percent, of the **ads** 188 with the highest estimated RPAI are passed to the next model.

Finally, an "expensive" model is applied to the remaining **ads** . The expensive model is a machine-learned model using the full set of

relevance features to make refined estimates of RPAI.
The estimated RPAI for an **ad** is actually a confidence interval [mm RPAI. . maxRPAI], representing the uncertainties of the machine-learned model and the methods used for estimating TLBC. At each iteration, the **ads** with the largest maxRPAI are selected and passed to the next model.

The second major heuristic is caching of scored **ads** 188 per target page 12. The result of scoring of a target page 12 on an **ad** corpus is cached on the query coordinators 634. In some system embodiments, the top 1 K **ads** 1888 are placed into the cache, and are used for a certain period of time...

...process needs to be executed for every request.

The third major heuristic is distributing the **ads** across multiple servers. **Ads** are distributed into a cluster of **ad** servers 636.

The fourth major heuristic has to do with how term match features are...

...expensive to compute. In order to compute them efficiently, an in-memory inversed term to **ads** index of **ad** /landing page terms is constructed.
The target page 12 is reduced to a small number...
...important terms and is executed as a Boolean OR query over the in memory-index.

Ad Network Components.

Load Balancers. The enhanced online advertising system 174 typically comprises a number of...

...710 that also support fail-over, and mark servers 630 as suspect.

Presentation Server. Incoming **ad** requests 402 are typically load-balanced 710 to a set of presentation server machines 638...

...presentation machines 638 also compose the final HTML 920, based on the small number of **ads** 188 returned to them by the query coordinators 634.

The presentation server 638 computes the...

...every time for a particular target page 12, as the query coordinators 634 cache the **ads** 188 to be displayed 194.
Presentation servers 638 also serve as redirectors of clicks and...

...572.

Query Coordinator. Query coordinators 634 comprise servers that perform smart load-balancing across the **ad** servers 636 in the cluster. A query coordinator 634 is responsible for a particular set...

...g. such as the top 30 to target page concepts that are determined during an **ad** crawl. Such information is typically only loaded when a target page 12 is requested and...

...to analyze the page 12.

Assuming the target page information is available, on an incoming **ad** request 402,906, the query coordinator 634 first consults its cache 635 (FIG. 30) to see if the top N **ads** for this target page 12 have been pre-computed earlier. A cache miss results in the query coordinator 634 quickly returning a set of popular **ads** 188 to the presentation server 638. After the query coordinator 634 finishes serving the request, the thread continues. The query coordinator 634 then selects an **ad** server cluster 636 on which to run the **ad** scoring. The query coordinator 634 passes the information on the target page 12 and the document frequencies for the terms in the target page 12 to each **ad** server 636 in the cluster, and then waits for the **ad** servers 636 to give back the results. The **ad** servers 636 execute all the models, and the query coordinator 634 waits with a timeout...

...query coordinator 634 merges the results back together, and keeps an even smaller number of **ads** 188 and requests the **ad** content and observed CPA for these **ads** 188 from the **ad** servers 636 in a io second round trip. Then the **ads** 188 are cached and are ready for serving next time a request 402 on this...

...174 still receives requests for this target page 12, the query coordinator 634 repeats the **ad** scoring process. This way the cache 635 stays current for the active target pages 12.

While some preferred embodiments of the enhanced online advertising system 174 recompute the best **ads** 188 every time an **ad** request 402 is made, other system embodiments 174 use caching 635, such as to provide most system performance with more limited computational resources.

Ad Cache Rotation. The top **ads** 188 in a cache entry 930 are typically rotated 934 for multiple requests 402. The rotation algorithm 934 preferably looks at the observed CPA rates returned with the **ad** servers 636 and computes the percentages of time that cached **ads** 188 should be shown.

When selecting a specified number, e.g. four, of the "best" **ads** 188 to show for a target page 12, there are often many more than the desired number of **ads** 188 that have approximately the same estimated revenue per **ad** impression (RPAI).

System embodiments 174 may have uncertainty in estimated RPAI values, such as due to machine learning, the limited observations of **ad** performance, andlor system estimates of total likely bidded CPA (TLBC). In the presence of such uncertainties, the system 174 cannot distinguish small differences in RPA(among **ads** 188.

Therefore, preferred system embodiments 174 take into account such uncertainties. For example, in some system embodiments 1741 the system 172 selects a larger number of **ads** 188 actually needed, wherein the selected **ads** 188 have a similar predicted RPAI. The system 174 then rotates through the selected **ads** 188 when choosing the desired number of **ads** , e.g. four **ads** 188 to show on a target page 12. The system 174 therefore does not "lock in" on a small set of **ads** 188 for a target page prematurely, until the system 174 has collected enough observations about the **ads** 188 to be confident of the system RPAI estimates. In some

system embodiments, such a rotation is preferably is biased towards **ads** 188 with higher RPAI estimates.

System Confidence FrameworkS The estimated RPAI of each **ad** 188 is expressed as a confidence interval of minimum and maximum RPAI, shown as: [minRPAI(**ad**).. .maxRPAI(**ad**)], where the confidence is a threshold set by the system, e.g. 95 percent. The system 174 assumes that the revenues resulting from individual **ad** impressions are uniformly distributed in that interval. Other system embodiments 174 may assume other distributions...

...more accurately model the estimates of RPA1. As discussed above, RPAI Is calculated as: RPAJ(**ad**) = Practions >>= 1 **ad** shown on target page) * TLBC(**ad**), where the probability of action is based on a blending of predicted and observed probabilities...

...of observations in the data, using standard statistical techniques.

In some system embodiments 174, the **ad** servers 636 and query coordinators is 634 sort lists of **ads** 188 by their mean estimated RPAI, wherein the confidence intervals of **ads** 188 are typically represented by a mean plus an error margin, rather than as a...

...avoid the computing the mean in real time, with a large number of data.

System **Ad** Cache Rotation. As discussed above, the query coordinator 634 maintains a cache 635 in some...

...a target page 12 to a candidate list 930 of at most the top N **ads** for that target page 12, where N may be on the order of 100.

To compute the candidate list 930, the query coordinator 634 periodically calls the **ad** servers 636, e.g. every 15 minutes, wherein each **ad** sever 636 periodically searches its associated **ad** index, and returns a list of at most M **ads** 188 on that **ad** server 636 with the highest mean RPAI, which is equal to: (minRPAI(**ad**) + maxRPAl(**ad**)) 12.

The value of M is preferably fairly large, e.g. 50, so that M multiplied by the :::i number of **ad** severs 636 is much greater than N. The query coordinator 634 then merges the returned lists into a single sorted list 930, such as sorted by mean RPAI.
When an **ad** call for an **ad** unit of c **ads** arrives at the query coordinator 634, the query coordinator 634 enumerates through the candidate list 930 of **ads** 188 and, for each **ad** space 184, randomly chooses an RPAI from the **ad** 's interval.

The query coordinator 634 then returns the c **ads** 188 with the highest randomly chosen RPAIs. I0

This algorithm provides a rotation of the **ads** 188 biased by their confidence intervals, as shown: bestAds= empty priority queue of length c is for each **ad** in list of **ads** for target page randomRPAl random value in [minRPAl(**ad**)..maxRPAl(**ad**)] insert < **ad** , randomRPAl> into bestAds The random value is chosen from the confidence interval, based on the...

...interval (uniform, normal, etc.).

In some system embodiments 174 the List 930 of N candidate **ads** 188 is relatively short, e.g. 100, so this algorithm is executed exceedingly fast. In...

...embodiments 174, wherein the cost of computing the random values is expensive, the list of **ads** 188 may preferably rotated after every r **ad** calls 402, e.g. every 5 **ad** calls 402.

In some system embodiments 174, such as to reduce execution time, the list o **ads** 188 is rotated just once, such as for every five **ad** calls 402. However, SInCE such **ad** rotation is typically fast and inexpensive, most system embodiments 1 7 may preferably provide rotation for each upon each add call 402.

When an **ad** server 636 comes online/offline it sends a message to the query coordinators 634 in the system so that they know which **ad** servers 636 should be available for **ad** serving. The query coordinator 634 selects an **ad** server cluster 636 that it knows can handle the request, and the query coordinator 634...

...of failure, such as if timeout is detected. If such a failure is detected, the **ad** server 636 is marked as suspect, and typically retried within a certain period. If the **ad** server 638 doesn't come back up, a message is generated, in which human involvement...

...632 publish messages when certain important events have to occur, like an approval of an **ad** or stopping a running Is **ad** . These messages get picked up by other running components. Front-end servers 632 also support SOAP (or other protocol) API requests for **ad** management and other tasks.

Distribution Servers. Distribution servers 702 have a job of giving new **ad** , landing page 230 and target page features to the correct **ad** servers 636 and query coordinators 634. For every **ad** 188 and page 12 in the system 174, the most recent date of update is...

...Upon restart, the distribution server 702 reads the most recent date of update for all **ads** 188 and target pagesl2. Distribution servers 702 preferably have a fast connection to the disk based feature repository storage 676 (FIG. 30). When a new or updated **ad** 188 ...814 for the new object into its memory. The distribution server 702 pushes the new **ads** 188 or target pages 12 to the **ad** servers 636 or query coordinators 634, or responds to the periodic pull time type commands...

...page 12 has changed, the page will be given a new feature vector 814. The **ad** servers 636 can perform a similar process, except the process is performed on an **ad** bucket level, rather than on the level of a single target page 12. The **ad** server 636 asks the distribution server 702 to give it all the **ads** 188 for a bucket that have changed since a given date. The **ad** server 636 may get back some **ads** 188, or it may get no **ads** 188.

On a complete recovery of an **ad** server 636, it will ask for all the **ads** 188 in the bucket since the beginning of time.

Is The distribution server 702 acts as an in-memory database of what **ads** 188 and what pages need to live where. If a distribution server 702 crashes, the distribution server 702 simply re-reads the tables with the **ads** 188 and pages and catches up on the missed new **ad** /page messages, which are preserved in a persistent queue.

Observation Servers. Observation servers 640 keep track of all the **ads** 188, **ad** groups 240 and campaigns 222 in the system 174. For example, observation servers 640 monitor the active vs. paused status of **ads** 188, as well as observed CPA and daily (or weekly) budgets. If an **ad** 188 needs to be paused or deleted, the associated observation server 640 communicates the deletion to the **ad** servers 636 and query coordinators 634. If an **ad** 188 has its budget exceeded, the associated observation server 640 pauses the **ad** 188 on other servers 630.

Observation servers 640 also propagate latest up to date observed CPA rates to the **ad** servers 636. Observation servers 640 are notified by the presentation servers 638, in regard to...

...the enhanced online advertising system 174, a single observation server 640 can handle all the **ads** 188. In embodiments of the enhanced online advertising system 174 that comprise a plurality of observation servers 640, a mapping scheme maps **ad** ranges to the appropriate observation servers 640, similar to the map used to distribute **ads** 188 between the **ad** servers 636.

io Observation servers 640 typically load the data cubes for aggregated CPA rates...

...catch up on the pause/delete messages as well as any missed impressions/clicks/actions.

Ad Servers. **Ad** servers 636 respond to an incoming request from the query coordinators 634. **Ad** server functionality 636 typically operates in a cluster of identical servers 636, such as wherein each **ad** server 636 is responsible for handling a certain subset of **ads** 188. **Ad** servers 636 are typically combined into clusters of **ad** servers 636 that are identical. The **ad** server 636 selects the top N best **ads** 188 for the request from its subset of **ads** 188 and sends the associated **ad** ids back to the query coordinator 634. The entire process of scoring **ads** 188 occurs very quickly, typically in less than 100 ms.

There is no redundancy of **ad** servers 636 within the cluster itself. The number of machines 636 in the cluster is proportional to the number of **ads** 188 In the system and the number of incoming requests for which full **ad** scoring has to be performed. The number of servers exceeds the number of requests that...

...that covers MTBF related properties of the hardware. At any given point a number of **ad** servers 636 in any cluster may be down, and the **ads** 188 that reside on that **ad** server 636 may be temporarily unavailable for serving.

Ad servers 636 typically operate in a cluster, wherein **ad** server 636 are registered with a global repository of **ad** servers 636, and the

updated map is then given to the query coordinators 634. When an **ad** server 636 goes down, after a number of retries it is assumed to be down and the map is adjusted to exclude it.

Ad Server Rebuild Approach. **Ad** servers 636 preferably stay in sync with the **ads** 188, by continuously rebuilding the **ads** 188 in memory. For example, in some system embodiments, some or all of the **ads** are divided into **ad** buckets, with a large number, e.g. lOOK **ads** 188, per bucket. The **ads** 188 are typically placed into buckets based upon their Id, wherein a bucket typically comprises a contiguous range of **ad** ids. **Ad** ranges between buckets do not overlap.

Therefore, while earlier created buckets may get sparse, e.g. as old **ads** are deleted, newer buckets are typically more full, except for the latest bucket, that is always being filled up. Because the **ad** ids in a bucket are contiguous, the system is typically able to compress the **ad** ids successfully when constructing the **ad** index.

Each **ad** server 636 is allowed to have a certain number of **ads** . Each bucket loaded onto an **ad** server 636 keeps track of how many **ads** 188 it has. Thus, an **ad** server 636 always knows how many **ads** 188 it has, and if it has a spot for another bucket. When a new bucket is created, it is tied to a particular **ad** server 636 and it doesn't move. The bucket creation algorithm does the following: adjusts the map to have a new entry between an **ad** range and the bucket; * allocates a bucket to a particular server in each cluster based on the server load (number of **ads**) . The allocation must not exceed a maximum number of **ads** per server. If no allocation is possible, no **ads** can be added to the system until new hardware is added. The system is monitored...

...full, e.g. in some embodiments, sales engineers look at the system before loading 1OM **ads** into it; and the final step in bucket allocation is propagating the map through the system to the query coordinators 634 and other servers 630.

The map from **ad** ranges to buckets and from buckets to servers is relatively small. For a system 174 that has 100K **ads** per bucket, there are 1K buckets for lOOM **ads** 188. Each bucket lives on as many servers as there are clusters.

Propagating this relatively...

...packets.

Instead of having an offline rebuild server, rebuilding typically happens continuously on a running **ad** server 636. The **ad** server 636 gets the **ads** and features from the distribution server 702, as described above. The **ad** server 636 typically remembers a timestamp for each bucket that it has, so that it...
...by the distribution server 702 in the case of push.

A rebuild process in an **ad** sever 636 preferably works without starving the **ad** scoring threads. In a pull system model, a rebuild thread wakes up periodically and pulls the new **ad** data from distribution for the buckets that it is responsible for. For each bucket the rebuild thread comprises the steps of: * performing the following for each transaction:

* reading the **ad** bucket data starting with the last known date that it has; * writing the read in...

...and also write it to disk; and * adjusting its internal memory representation, i.e. an **ad** index, of the **ads** 188, based on the disk copy.

The **ad** index comprises a hierarchy of posting lists. Each posting list maps a term (or a 8-byte fingerprint of the term) tO a list of **ads** 188 that contain the term.

The complete list of **ads** 188 for a given term may come from multiple posting lists. The lower-level posting lists are made small enough so that the cost of inserting a new **ad** 188 is low. In the steady state, an **ad** server 636 receives a small number of new **ads** 188 per day. These new **ads** 188 are preferably added to the lower-level posting lists. When a lower-level posting...

...beyond a certain threshold, its content is merged into a higher-level posting list.

The **ad** index can be implemented as a highly concurrent data structure, where posting lists are updated in place. The **ad** index can also be implemented as a Lucene-like structure where changes are never performed ...

...new and smaller index is preferably built to accommodate the changes.

To process a modified **ad** , e.g. such as due to a refresh of a landing page 230, or a deletion of an **ad** 188, the **ad** server 636 needs to know the difference between the old version and the new version...

...distribution server 702 does not send the content difference along with the change request, the **ad** server 636 typically maintains the **ad** content on its local disk, and computes the difference before adjusting the **ad** index.
Stop messages are typically broadcast in the system 174 by the observation server 640, so that both **ad** servers 636 and query coordinators 634 reflect in their cache all the stop requests. The...

...data required for the task.

Such tasks typically comprise any of: * intelligent approval of the **ad** ; * crawler tasks; * page analysis; * fraud detection on the click-stream; * nightly report generation for publishers...

...that are capable of executing certain tasks, whereby certain servers 642 are set aside for **ad** approval for example, and perform no other tasks.

Crawling and Page Analysis. When a system...

...i.e. crawled content or text classification for the page 12.

While most page and **ad** information is stored in the database, the feature vectors 814 are stored in disk on...

...a message sent to the observation server 640 and distribution server 702 to make the **ad** go live. Alternatively, the observation server 640 can poll the page store periodically for changes. Note that the system 174 does not typically use an **ad** 188 unless its landing page 230 2i u u.

has been crawled at least once. The landing page 230 often contains valuable information, such as user reviews. Therefore, serving **ads** 188 without knowing the content of a landing page 230 may lead to poor **ad** selections. The principle holds true for catalog **ads** , which can take days to crawl, due to the large number of landing pages 230...

...typically have to be periodically re-crawled. Re-crawl intervals depend on the rate of **ad** requests 402 from the page 12, and how often changes are detected during re-crawls...

...page 12. Note that the analysis pipeline may be different for target pages 12 versus **ads** 188 and/or landing pages 230.

Most web sites tolerate only a small number of...

...example:

new target pages 12 are preferably fetched within seconds, to ensure the quality of **ad** selection for the page 12; new landing pages 230 for non-catalog **ads** 188 are preferably fetched within minutes, e.g. 15 minutes, so that new **ads** are deployed in a timely manner; and/or * new landing pages 230 for catalog **ads** are preferably fetched within a day (some system embodiments 174 may not be able to...

...that such pages are fetched in minutes, because an advertiser 72 may load millions of **ads** 72 at a time.

The system 174 also preferably re-fetches all pages periodically to...

...31), due to the absence of a recent hit.

The landing pages 230 for modified **ads** 188 are typically treated like new landing pages 230, wherein such landing pages 230 are typically re-fetched within minutes. As well, the landing pages 230 for modified catalog **ads** 188 are typically treated like new landing pages 230, wherein such landing pages 230 are typically re-fetched within a day. Furthermore, the landing pages 230 for all **ads** 188 are typically re-fetched at least once every M days, e.g. at least...

...in the following order: * new target pages 12; * landing pages 230 for new non-catalog **ads** ; * existing target pages 12; * landing pages 230 for modified non-catalog **ads** ; * landing pages 230 for new catalog **ads** ; * landing pages 230 for modified catalog **ads** ; and * landing pages 230 for unmodified **ads** .

The crawler 642a is able to handle web sites with a reasonable authentication protocol. For...

...online advertising system 174 has a workload comprising 20,000 target pages 12, Twenty million **ads** , of which 1 percent change per day, in which all target pages 12 are refreshed...

...about 8 hours for one day's worth of work. To bootstrap a 20 million **ad** inventory in a day, the crawler is able to complete 231 fetches a second. In...

...performance may not be possible at all times, such as if the majority of the **ads** 188 come from a few catalog advertisers 72 that only allow a E?:rn.

few...

...second. Therefore, for large catalog campaigns 222, it may take a few days for their **ads** 222 to go live after they are bulk loaded into the system 174.

s Monitoring...

...monitoring software is used by the ops.

Gracefully taking down some servers 630, like the **ad** server 636, results in a message published on a bus so that query coordinator 634 knows not to attempt to use this server for serving **ads** .

System Maintenance. The system architecture preferably permit occasional maintenance operations with as little down time as possible. For example, the **ad** serving subsystem is designed to be up all the time, even when the **ad** servers 636 themselves are being replaced. The publisher/advertiser application serve4 142?, on the other...

...query coordinators 634 * Addingfremoving task servers * Replace distribution server 702 or observation server * Adding/removing **ad** servers 636 from the cluster, for example, to throttle the system capacity or to repair/upgrade the server hardware.
* System-wide upgrades, which include: * Upgrading the **ad** serving subsystem with a new turn release.

* Upgrading the database server to a new vendor...

...also be triggered by excessive load on the primary query coordinators servers 634.

A new **ad** server 636 typically registers itself with the global repository of machines in this cluster and participates in the serve/rebuild process. Query coordinators 634 are notified when an **ad** server machine 636 comes up or goes down in the cluster. Query coordinators 634 can also preferably detect a down **ad** server 636 and put it into suspect and then into a downed state.

In some...

...system 174 is designed to handle the ii:: !::: ;t downtime of these servers without affecting **ad** server or other operations. They are monitored and failed over in the case they go...

...servers 640,702, with fail-over algorithms.
System-Wide Upgrades. An upgrade release for an **ad** server 636 is not

preferably performed during any down time of the **ad** serving subsystem.

Therefore, removal of one or more, i.e. a subset of the **ad** servers 636, is preferably only performed at times when there is at least one active **ad** server 636 for each redundancy group. The inactive **ad** server 636 then receives the latest turn code release with the necessary changes to its state data, e.g. a new log format. The upgraded **ad** sen/er 636 can then be added back to the active pool with the appropriate...

...the system to run with two different code releases at the same time. Therefore, the **ad** server code allows a new release to execute the message protocol of a previous release...

...least one version. Alternatively, some system embodiments 174 run both versions of code until all **ad** servers 636 are upgraded, at which point the system 174 atomically switch to the latest...

...during the windov of maintenance.

Although the database server is down during the upgrade, the **ad** servers 636 must continue to serve **ads** 188. To decouple the database server and the **ad** serving subsystem, the system 172 preferably follows the design principle that an active **ad** server 636 never reads data or writes data directly to the database server. Instead, data...

...have the task server 642 push the incremental changes between the database server and the **ad** servers 636. The to push can be performed at regular intervals, e.g. such as for new **ads** or new impression counts, or it can be triggered on demand by either subsystems.

The...

...642, observation servers 640, and/or distribution servers 702 is not typically on the critical **ad** serving path, so these systems may be safely shutdown, updated as necessary, and brought back...

...The performance data includes the number of impressions 572, the average rank of the displayed **ad** (s) 188, the number of clicks 584, the number of actions 86 and the details...

...The standard reports are for non-catalog based campaigns, each of which has a small **ad** inventory, e.g. thousands. Catalog reports are preferably provided for catalog-based campaigns 222, which can have millions of **ads** 188, Again, for the sake of a reasonable response tIme, the system 174 typicall restricts...

...catalog reports. For example, the system 174 does not typically provide performance data at the **ad** group level 240 for catalog reports.

At any given point in time, the system's...

...of performance data is a daily aggregate or a partial daily aggregate for an individual **ad** . The partial aggregates for the current day are maintained by the observation server during the **ad** serving process. These aggregates are sent to the reporting database as frequently as performance permits...

...As the result of the roll-off, the reporting store must maintain a separate per- **ad** fact table to store the "inception-to-date" performance data. The inception-to-date fact...

...by a database that supports partitioning, parallel queries and possibly materialized views.

For each per- **ad** fact table, the system 174 maintains a small collection of roll-up tables to speed...

...the individua' transaction records.

Sizing estimate. For an exemplary system 174 that serves 50 million **ads** 188, 10,000 distinct target pages 12 per day, and a 15-minute refresh of the target pages 12, an estimation of the size of the per- **ad** fact table is shown as: Daily performance data: 10,000 pages * 100 (re-selection/day) * 4 (**ads** /selection) = 4 million rows/day.

Keeping the past 7 days' data requires 7 * 4M 28rows.

Weekly performance data: 4 million **ads** /day * 7 (days/week) /2 (duplicate per **ad** per week) = 14 rows/week.

Keeping 4 weeks of data requires 14 * 4M= 56 million rows.

Monthly performance data: As most or all **ads** would seen in a month's time, there would be about 50 million rows a...

...transactional data for the publisher/advertiser apps 142 (FIG. 5); * a feature store: data for **ad** serving; and * a report store: performance data for reporting and billing.

t::::"t i i...

...category.

* Indices for lookup-by-id and ordering-by-time. Examples include the page or **ad** features and the page analysis data (for the crawler).

* Relational databases for transactions and **ad** hoc queries. The publisher and advertiser configurations are typical examples.

* OLAP databases (parallel queries, partitioning...

...or re-computed.

Runtime Data. There is variety of data needed for the run-time **ad** serving. The data is propagated to the **ad** servers 636 and cached on their local disks.

Computed features and feature lookup tables are examples of such type of data.
This data is further cached in memory by the **ad** servers 636 to improve runtime performance. The system uses message queuing to support distributed computing...

...applications and various runtime services when database access performance is not an issue.

to Runtime **ad** -serving typically uses feature vectors 814 and optimized versions of loaded database-based objects when...

...make sure that only needed data is fetched, and in the most optimal way possible. **Ad** -serving also loads and caches (when possible) pre-computed features and feature lookups out of...

...consumer from a cluster of identical consumers. An example of this a creation of an **ad** 188 that triggers exactly one approval of an **ad** 188, via the approval task. The second important type of message is a multi-cast...

...message.

iii' I,,,. I,,,,' u.n u.n tin, An example would be if an **ad** 188 is paused, a multi-cast message to all the **ad** servers 636 serving this **ad** 188 should stop this **ad** 188 from being served 194.

Messages are asynchronous. Asynchronous messaging is an excellent way to ...

...machine and its primary role, e. g. such as for a query coordinator 634, an **ad** server 636, and/or a task server 642. The term "service" as used herein, such...

...of hardware, typically refers to software that can receive and process messages, e.g. the " **ad** server service" is the module that serves **ad** server scoring requests. Similarly, the term "machine" as used herein, typically refers to the hardware...

...transparently when scalability / availability barriers are discovered; * providing a framework that could be instrumented for **performance measurements** -alternatively, aspects can be used for this; and/or * providing a framework that can be...

...non-persistent destinations. This destination configuration type is used by Query Coordinator 634 to distribute **ad** scoring requests to all members of an **ad** server cluster 636 for parallel processing. Each **ad** server 636 knows, from service startup parameters, what set of **ad** buckets to process. As well, in some system embodiments 174, JGroups is used for persistent...

...the destination type is used by the observation server 640 to send CPA updates to **ad** servers 636. Such requests are specific to a set of **ad** buckets, and may typically be processed by two **ad** servers 636 at a time, the same as the number of Query Coordinators 634. JMS implements this with a publish/subscribe topic, to which **ad** servers 636 would filter the requests based on the **ad** buckets. JGroups typically uses either multi-point (TCP/IP) or, by defining multiple groups, multi...

...dynamically updatable mapping so that the system 174 can throttle the server pool easily.

* The **ad** server code preferably executes the message protocol from the current release and the previous release, whereby the **ad** servers 636 can be upgraded individually.

* Communication between the **ad** servers 636 and the database server is preferably asynchronous, so that the system 174 can serve **ads** 188, even when the database is unavailable.

System Advantages. In conventional online **ad** network systems, advertising entities are typically required to provide expertise in the input of relevance links, i.e. keywords and phrases, from which conventional **ad** placement systems provide a limited matching of relevance to available **ad** space, typically based solely on keyword matching between the input advertiser keywords and a search...

...a match to keywords and phrases in a publisher page.

As well, in conventional online **ad** network systems, advertising entities are typically required to provide expertise in bidding on a limited...

...publisher assets. The enhanced online advertising system 174 greatly simplifies the generation and targeting of **ads** , and provides significantly greater **ad** relevance for served 194 **ads** 188, resulting in **ads** 188 that are more meaningful to consumers USR, more effective for advertisers 72, and thus...

...keyword and/or category "hints" may be utilized if available, they are not required.

An **ad** having a higher rank gets more play, so an advertiser 72 may manually or automatically increase the rank of a desired **advertisement** , by increasing bid price 252 or improving the quality of the **ad** 188.

Furthermore, as described above, the system 174 can automatically generate "catalog **ads** " 188 by taking advertisers product catalogs and automatically generating **ads** 188 from them. This inherently allows the system 174 to rapidly serve millions of **ads** 188, and at much lower cost than alternative networks. The system 174 therefore inherently allows...

...72 to advertise the "long tail" of their product catalogs 462, i.e. thereby providing **ads** 188 even for products 590 that would normally receive little attention. Advertisers 72 conventionally have...

...prohibitively expensive for promoting sales of all products 590. As well, by efficiently providing more **ads** 188, the system 174 can additionally provide more revenue to more diverse publishers 76, since such catalog **ads** are only possible because of the **automated predictive** technology within the enhanced online advertising system 174. Although the exemplary enhanced online advertising system...

Claim
... one or more advertising sites correspondingly associated with the advertising entities, and one or more **ads** having selectable links from which each of the respective advertising sites can be accessed; means...

...from a user terminal across the network an automated Is request for one
or more **ads** associated with a display of one of the publisher pages at
the user terminal, the displayed publisher page comprising one or more
available **ad** spaces; means for matching the automated **ad** request to
at least a portion of analyzed publishing context if available; means for
predicting a response to the **ads** by a user at the user terminal,
wherein the prediction is it least partially based on any of the analyzed
publishing context and the analyzing advertising context of the
associated **ads** ; means for automatically determining one or more of the
best stored **ads** based on any of a predicted and observed effective
impression revenue of the stored creatives; and means for sending one or
more of the automatically determined best stored **ads** to the user
terminal for integration with the displayed publisher page.

2. The system of...
...estimations of the probability that the actions will occur given a
display of the associated **ad** to the user.

4. The system of Claim 1, wherein the user terminal comprises a...

...wherein the assets associated with at least one of the advertising sites
comprise any of **ads** and one or more web pages associated with
corresponding advertising sites.

11. The system of...

...analyzed portion of the publishing sites comprises a publisher page
having at least one available **ad** space.

12. The system of Claim 1, wherein the analyzed portion of the publishing
sites further comprises at least one publishing page other than the
publisher page having the available **ad** space.

13. The system of Claim 1, wherein the means for analyzing publishing
context also...

...the displayed publisher page to a display of an advertiser site
corresponding an integrated displayed **ad** upon selection by the user.

16. The system of Claim 15, further comprising: means for...

...advertising entity.

17. The system of Claim 15, wherein the determination of at least one **ad**
associated the displayed advertiser site is at least partially
influenced by one or more tracked...

...analyzing each of the asset records in the catalog file; and means for
automatically producing **ads** corresponding to each of the analyzed asset
records.

24. A process implemented across a network...

...to the respective advertiser entities; receiving from a user terminal
across the network an automated **ad** request for one or more creatives

associated with a display of one of the publisher pages at the user terminal, the displayed publisher page comprising one or more available **ad** spaces; matching the automated **ad** request to-at least a portion of analyzed publishing context if available; predicting a response...

...wherein the assets associated with at least one of the advertising sites comprise any of **ads** and one or more web pages associated with corresponding advertising sites.

34. The process of...

...portion of the publishing sites s comprises a publisher page having at least one available **ad** space.

35. The process of Claim 24, wherein the analyzed portion of the publishing sites further comprises at least one publishing page other than the publisher page having the available **ad** space.

36. The process of Claim 24, wherein the step of analyzing the publishing context...

...the displayed publisher page to a display of an advertiser site corresponding an integrated displayed **ad** upon selection by the user.

39. The process of Claim 38, further comprising the step...

...advertising entity.

40. The process of Claim 38, wherein a ranking of at least one **ad** associated the displayed advertiser site is at least partially influenced by one or more tracked...

...asset; automatically analyzing each of the asset records in the catalog file; and automatically producing **ads** corresponding to each of the analyzed asset records.

47. A process implemented across a network...

...associated with the advertiser campaign; receiving from a user terminal across the network an automated **ad** request for one or more **ads** associated with a display of one of the publisher pages at the user terminal, the displayed publisher page comprising one or more available **ad** spaces; matching the automated **ad** request to at least a portion of the analyzed publishing context; predicting a response to the **ads** by a user at the user terminal, wherein the prediction is it least partially based on any of the analyzed publishing context and the analyzing advertising context of the associated **ads** ; automatically determining one or more of the best stored **ads** based on any of a predicted and observed effective impression revenue of the stored **ads** ; and sending one or more of the ranked selected **ads** to the user terminal for integration with the displayed publisher page.

48. A web page displayable at a user terminal in communication with a central **ad** system across a network, comprising: publisher content; at least one available **ad** space; and at least one **ad** displayed within the available **ad** space, the **ad** associated with an advertising entity; wherein displayed **ads** are selected by the central system, based on an automated contextual analysis of at least...

...associated with the advertising entity.

49. The web page of Claim 48, wherein the displayed **ads** are ranked by the central **ad** system.

50. The web page of Claim 49, wherein higher ranked **ads** are more prominently displayed on the page than lower ranked **ads** .

51. A process implemented across a network having one or more publishing sites correspondingly associated...

...the asset records in the catalog file; storing the analyzed asset records; and automatically producing **ads** corresponding to the analyzed asset records.

52. The process of Claim 51, wherein the assets...

...the fields.

55. The process of Claim 51, wherein the bids correspond to any of **ad** -based CPA bids and commission-based CPA bids.

56. The process of Claim 51, wherein...

...landing page.

61. The process of Claim 51, further comprising the step of: determining an **ad** format for one or more of the **ads** .

62. The process of Claim 61, wherein the step of determining **ad** formats includes input from any of the advertiser entity, a secondary source, and an internal **ad** template source.

63. The process of Claim 51, further comprising the step of: storing the produced **ads** for use on the network.
64. The process of Claim 63, further comprising the steps of: receiving from a user terminal across the network an automated **ad** request for one or more creatives associated with a display of one of the publisher pages at the user terminal, the displayed publisher page comprising one or more available **ad** spaces, wherein the creatives comprise any of the stored produced **ads** and other stored **ads** provided by any of the same advertising entity and a different advertising entity; matching the automated **ad** request to at least a portion of analyzed publishing context if available; predicting a response...

17/3,K/3   (Item 3 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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01346498   **Image available**
GAME THEORETIC PRIORITIZATION SCHEME FOR MOBILE AD HOC NETWORKS
   PERMITTING HIERARCHAL DEFERENCE
SYSTEME D'ETABLISSEMENT DE PRIORITES THEORIQUES DES JEUX POUR RESEAU
AD

HOC MOBILES PERMETTANT UNE DEFERENCE HIERARCHIQUE

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GAME THEORETIC PRIORITIZATION SCHEME FOR MOBILE AD HOC NETWORKS
    PERMITTING HIERARCHAL DEFERENCE
SYSTEME D'ETABLISSEMENT DE PRIORITES THEORIQUES DES JEUX POUR RESEAU
AD
    HOC MOBILES PERMETTANT UNE DEFERENCE HIERARCHIQUE

International Patent Class (v8 + Attributes)
IPC + Level Value Position Status Version Action Source Office:
  G06Q-0040/00 ...
Fulltext Availability:
  Detailed Description
  Claims

Detailed Description
  GAME THEORETIC PRIORfTIZATION SCHEME FOR MOBILE AD HOC NETWORKS
  PERMITTING HIERARCHAL DEFERENCE
  FIE D OF THE INVENTION
  The present invention relates to the field of ad hoe network protocols
  and control architectures.

  BACKGROUND OF THE INVENTION
  A number of fields of...

  ...a mobile telecommunications protocol, such as IETF RFC 3344 (Mobile IP,
  IPv4), or various mobile ad hoc network (MANET) protocols, 2.5G or 3G
  cellular, or other types of protocols. Preferably...bids or proxy bids of
  other bidders. This feature allows bidders to participate in the
  electronic auction without revealing to the other bidders the extent to

which they are willing to...

...I'll". I.:; ii
and me& Mnw i" " "" ',:' t' I" L@f
qua lt@ o **ad** identification transaction usincr an identification
quality
score); 6,068,184 (Security card and system for...

...and credit collection utiliziner a payment. An electronic monetary
system provides for transactions utilizing an **electronicmonetary** system
that emulates a wallet or a purse that is customarily used for keeping
money...54 (04/27/1999, System and method for updating
security.information in a time-based **electronic** monetary system);
5,901,@29 (05/04/1999, Electronic cash implementing method using a
tnistee...

...article of manufacture for a modular gateway server architecture);
6,003,765 (12/21/1999, **Electronic** cash implementing method with a
surveillance
5

. ...

institution. and user apparatus and surveillance institution apparatus...

...theoretic analysis of altruistic behaviour may be imported for
consideration as appropriate.

In a mobile **ad** hoc conununications network, a real issue is user
defection or noncompliance. For example, where a cost is imposed on a
user for participating in the **ad** hoc network, e.g., baftery power
consumption, if the anticipated benefit does not exceed the...

...The result of mass defection will, of course, be the instability and
failure of the **ad** hoc network itself, leading to decreased utility,
even for those who gain an unfair or...

...peer network in which each node has an equal opportunity to gain control
over the **ad** hoc network, independent of outside influences. On the
other hand, by insulatin the network from...

...understanding of the network behavior in response to a perturbation.

The typical peer-to-peer a'd hoe network may be extended to the
hierarchal case by treating each branch (includincr-sub...

...control over the network for extended periods.
It is noted that, in a multihop mobile **ad** hoc network, if a
communication path fails, no further transfers are possible, potentially
resulting in...

...turn, leads to a potential exhaustion of resources, and the
unavailability of the node for **ad** hoc intermediary use, even for the
benefit of the hierarchy. An initial surphis allocation will...

...allocation, potential waste of allocation, and a disincentive to act as
an intermediary in the **ad** hoc network. While in a traditional military

hierarchy, cooperation can be 43 ....

mandat in Ms...

...be expressed), it fails to respond to "market" forces.

Accordingly, a peer to peer mobile **ad** hoe network suitable for
respecting hierarchal orcranization structures is delecration is
provided. In this hierarchal...of this system are discussed -in more
detail elsewhere in-this specification.

SECOND EMBODIMENT
Multihop **Ad** Hoe Networks require cooperation of nodes which are
relatively disinterested in the content being conveyed...

...thus increasing efficiency and avoiding
@7'
aitial availability or disposal.

p
One issue in mobile **ad** hoc networks is accounting for mobility of nodes
and unreliability of communications. In commodities markets...

...A previous scheme proposes the application of game theory in the control
of multihop mobile **ad** hoc networks according to "fair" principles. In
this prior scheme, nodes seeking to control the...

...T Jean-Pierre Hubaux, Nuorlets: a Virtual Currency to
Stimulate Cooperation in Self-Oroanized Mobile **Ad** Hoc Networks,
Technical Report DSC/2001/004, EPFL-DI-ICA, January 2001, incorporated
herein by...

...Michiardi and R. Molva, CORE: A collaborative reputation mechanism to
enforce node cooperation in mobile **ad** hoe networks, In B. Jerman-Blazic
and T. Klobucar, editors, Communications and Multimedia Security, IFIP...

...Sonja Buchegger and Jean-Yves Le Boudec, A Robust Reputation System for
P2P and Mobile **Ad** -hoc Networks, Second Workshop on the Economics of
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Reputation Methods for Routing Security for Mobile **Ad** Hoc Networks;
Frank Kargl, Andreas Klenk, Stefan Schlott, and Micheal Weber. Advanced
Detection of Selfish or Malicious Nodes in **Ad** Hoe Network. The I st
European Workshop on Security'in **Ad** -Hoc and Sensor Networks (ESAS
2004); He, Qi, et al., SORI: A Secure and Objective Reputation-based
Incentive Scheme for **Ad** -Hoc Networks, IEEE
Wireless.Conununications-and-Networking Corif@rence 2004, each of which
is expressly...

...is possible to. include hierarchal deference as a factor in optimization
of a multihop mobile **ad** hoc network, leading to compatibility with
tiered organizations, as well as with shared resources.

GAME THEORY
Use of Game Theory to control arbitration of **ad** hoc networks is well
known. F. P.
Kelly, A. Maulloo, and D. Tan. Rate control...

...the communication medium. Courcoubetis, C., Siris, V. A. and Starnoulis,
G. D. Integration of - 51

AD HOC NETWORKS

An **ad** hoc network is a wireless network which does not require fixed
infrastructure or centralized control...

...node, employing neighboring nodes to forward messages to their
destination. In a
t:1
mobile **ad** hoc network, constraints are not placed on the mobility of
nodes, that is, they can...

...the Commons.. Science, 162:124')-1248, 1968.

Alternate Location: http://dleoffcom/paae95.htm.

In an **ad** hoe network used for conveying real-time information, as might
be the case in a...

...private value results in the maximum likelihood of prospective gain.
APPLICATION OF GAME THEORY TO **AD** HOC NETWORKS
There are a ni-imber of aspects of **ad** hoe network control which may be
adjusted Mi accordance with aame theoretic approaches. An example...

...are a number of known and proven routing models proposed for forwarding
of packets in **ad** hoc networks. These include **Ad** Hoc On-Demand
Distance Vector (AODV) Routing, Optimized Link State Routing Protocol
(OLSR), Dynamic Source...

...Mauve,
,to
J. Widmer, and H. Hartenstein. A survey on position-based routincr in
mobile **ad** hoc networks.

IEEE Network Magazine, 15(6):' 30-3)9, November 2001.

- 55
Cr
Gerla. Scalable routing protocols for mobile **ad** hoe networks. IEEE
Networks, 16(4):11-2 1, July 2002; D. Johnson, D. Maltz, and Y.-C. Hu.
The dynamic source routing protocol for mobile **ad** hoe networks, April
2003. http://www.ietforg/intemet-drafts/draft-ietf-manet-dsr txt; S...
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study of **ad** hoc wireless multicast protocols. In Proceedings of IEEE E
TFOCOM 2000, pages 565-574, March...

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2000. IECON 2000, v. 2,pp.

1129-1 134...

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200'); C. E. Perkins, editor. **Ad** Hoc Networking. Addison-Wesley,.
Boston, 2001 E.: Royer and C.-K. Toh. A review of current routing

protocols for **ad** hoe mobile wireless networks. IEEE Personal Communications, 6(2):46-55, April 1999; Holger FdBler, Hannes Hartenstein, Dieter Vollmer, Martin Mauve, Michael Kdsemann, Location-Based Routing for Vehicular **Ad** -Hoc Networks, Reihe Informatik 3/2002, http://citeseer.ist.psu.edu/56003 36.html; J...

...B.

Johnson, Y. C. Hu, and J. Jetcheva. A Performance Comparison of Multi-Hop Wireless **Ad** Hoe Network Routinor Protocols.'In Proc. of the ACM/IEEE MobiCom, October 1998, http://citeseer...

...a battery operated transceiver with limited power availability. Juha Leino, "Applications of Game Theory in **Ad** Hoc Network", Master's Thesis, Helsinki University Of Technology (200')); J. 3 0 Shneidman and ...

...Michiardi and R. Molva. Core: A collaborative reputation mechanism to enforce node cooperation in mobile **ad** hoc networks. In Communication and Multimedia Security 2002 Conference, 2002. This reputation may be evaluated...

...David C. Parkes, I st Workshop on the Economics of P21? systems, Strategyproof
Mechanisms for **Ad** Hoc Network Formation, 200')J
- 60 - 61 bidder s EWiWJC@ e-f@a@eftdft @'bWhnner...related communications because it is relatively 3 0 simple and robust, and well suited for **ad** hoc communications in lightly loaded networks. An initial node transmits using an adaptive power protocol...

...more efficient may be employed either directly, or analogy, to the virtual economy of the **ad** hoc network. The ability of nodes to act as market maker and derivative market agents...

...non-compliant nodes are either excluded from the network or at least labeled. While an **automated** clearinahouse which periodically ensures nodal compliance is preferred, a human discretion clearinghouse, for example presented...

...net result, however, is a decided subjective unfairness to lower ranking nodes. In a mobile **ad** hoc network, a real issue is user defection or non-compliance. For example, where a cost is imposed on a user for participating in the **ad** hoc network, e.g., battery power consumption, if the anticipated benefit does not exceed the...

...The result of mass defection will of Course be the-instability and failure of the **ad** hoc network itself. Thus, perceived fairness and net benefit is important for network success, assuming...

...with those of the organization as a whole. Since the oraanization exists outside of the **ad** hoc network, it is generally not unrealistic to expect compliance with the hierarchal attributes both...
...nodes might ordinarily be limited to cellular wireless communications (including mobile cells, e.g., mobile **ad** hoc networks (MANETs)). For a low level node to generate a broadcast using an expensive...

...resources (including, f6r exJdihp1e,-as'ets and credit), and the
unavailability of the node for **ad** hoc intermediary use, evenfor the
benefit of the hierarchy. An initial surplus allocation will lead...

...allocation, potential waste of allocation, and a disincentive to act as
an intermediary in the **ad** hoc network.

In a military system, it is clearly possible to formulate an "engineered"
solution...

...employed, which may be licensed or unlicensed.

Various studies have shown that modeled multihop mobile **ad** hoc network
architectures tend to have low efficiency over three to five or more hops
...

...that is, retransmission of packets imposes a power cost, then the
stability of the mobile **ad** hoc network and cooperation with its
requirements will depend on properly incentivizing intermediary nodes to
...

...cost of this additional process must be commensurate with the benefits
provided, or else the **ad** hoc network will become unreliable. The
incentioves therefore may be, for example unrestricted credits (cash...

...do they value the benefits commensurate with the overall costs,
including service fees, hardware, and **ad** hoc cooperative burdens? As
such, care must be exercised to define competitive compensation or the...

...a suitable return on investment is mandated.

Many analyses and studies have concluded that voluntary **ad** hoc networks
are efficient when the incentives to cooperate with the network goals are
aligned...

...in network administration or operation, while taking advantage of the
network as a beneficiary, the **promotion** of network availability as an
incentive for cooperation is typically itself insufficient incentive to
assure...phone or make it unavailable. The user may abuse the service
contract, taking advantage of **promotions** or "free" access to the
detriment of others. Notably, the user typically has no reasonable...

...licensed spectrum, and if he does, it is a problem outside the scope of
the **ad** hoc network issues. While older analog cellular phones provided
the 77 user witK-:" 41-i6fiL...

...of the cellular infrastructure, and GPS is a one option to provide this
feature.

The **ad** hoc commimications can occur using a licensed or unlicensed
band. For example, since we presi...

...that nodes are beyond range of a fixed cellular tower (except the
closest node), the **ad** hoc network may reuse licensed bandwidth in the
uncovered region. The **ad** hoc communications may also occur in
unlicensed spectrum, such as the 2.4 GHz ISM...

...however, remains useful for compensating intermediaries.

CONCLUSION
Game theory is a useful basis for analyzing **ad** hoc networks, and
understanding the behavior of complex networks of independent nodes.' By
presuming a...

...provides a communications system, method and
1 5 infrastructure. According to one preferred embodiment, an **ad** hoc'.
self organizing, cellular radio system (sometimes known as a "mesh
network") is provided. Advantageously...or using
calculus to maximize the auxiliary quantity
I logtgo7q
Epiqlo Al All
q
over **AD** ,[, p 344-3)46j. A special feature of the algorithm is the
guaranteed convergence
tn...are no longer normal after undergoing their respective nonlinear
transformations. The EKF is simply an **ad** hoc state estimator that only
approximates the optimality of Bayes' rule by linearization. Some
interesting...the systems. However, for such purposes as pothole
reporting, positional - 158 accuradi,eA.-Of l' **Ad** 5-iftWis are
preterred. These may be obtained through a combination of techniques, and
therefore...as various cellular carriers and protocols, 8 02.1 1 hot
spots, and a mobile **ad** -hoc network with sporadic links to fixed
infrastructure. This, in turn, allows a balancing of...
...for the resources, quality of service, cost, and reliability. For
example, by providing a mobile **ad** -hoc supplementation for a fixed
cellular infrastructure, the incidence of dropped calls and service
unavailability...

...the fixed cellular infrastructure providers general ly own licensed
spectrum, the implementation of repeater or **ad** hoc services between
mobile units may be coordinated centrally, with mobile-to-mobile
communications usina...

...time service. The fixed infrastructure my also provide coordination of
information communication services, local buffering, **ad** multicast f
information of general interest.

It is therefore clear that the present..invention.may...

Claim
... The method according to claim 1, wherein said auction allocates
communication opportunity within a multihop **ad** hoc communication
network.

6 The method according to claim 1, wherein said auction operates
according...

01199064   **Image available**
USING ENHANCED AD FEATURES TO INCREASE COMPETITION IN ONLINE ADVERTISING
UTILISATION DE CARACTERISTIQUES PUBLICITAIRES AMELIOREES POUR RENFORCER LA
  CONCURRENCE DANS LA PUBLICITE EN LIGNE
Patent Applicant/Assignee:
  GOOGLE INC, 1600 Amphitheatre Parkway, Mountain View, CA 94043, US, US
  (Residence), US (Nationality), (For all designated states except: US)
Inventor(s):
  VEACH Eric, 12211 NE 32nd Street, Bellevue, WA 98005, US, (Designated for
  all)
Legal Representative:
  POKOTYLO John C (agent), Straub & Pokotylo, 620 Tinton Avenue, Bldg. B,
  2nd Floor, Tinton Falls, NJ 07724-3260, US
Patent and Priority Information (Country, Number, Date):
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  Application: WO 2004US21006 20040630 (PCT/WO US2004021006)
  Priority Application: US 2003610350 20030630
Designated States:
(All protection types applied unless otherwise stated - for applications
2004+)
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  DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC
  LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO
  RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
  (EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC NL PL PT RO
  SE SI SK TR
  (OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
  (AP) BW GH GM KE LS MW MZ NA SD SL SZ TZ UG ZM ZW
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USING ENHANCED AD FEATURES TO INCREASE COMPETITION IN ONLINE
ADVERTISING

International Patent Class (v8 + Attributes)
IPC + Level Value Position Status Version Action Source Office:
  G06Q-0030/00 ...
Fulltext Availability:
  Detailed Description
  Claims

English Abstract
  ...other for advertising space. There may be multiple advertising
  positions available, where the placement of **advertisements** is
  determined by an auction. To encourage competition, some **advertisements**
  may be presented with enhanced features. These enhanced features create
  an incentive for which advertisers...

Detailed Description
  USING ENHANCED **AD** FEATURES TO INCREASE COMPETITION
  IN ONLINE ADVERTISING
  ' 1, BACKGROUND OF THE INVENTION

' 1,1 FIELD...

...THE INVENTION
The present invention concerns advertising. In particular, the present
invention concerns the way **ads** are to be presented to their audience
and using enhanced presentation features to 1 0 increase competition to
produce better **advertisements** and markets.

' L2 RELATED ART
Advertising using traditional media, such as television, radio,
newspapers and...

...assumptions about the typical audience of various media outlets,
advertisers recognize that much of their **ad** budget is simply wasted.
Moreover, it is very difficult to identify and eliminate such waste...

...as conduits to reach a large audience. Using this first approach, an
advertiser inay place **ads** on the home page of the New York Times
Website, or the USA Today Website, for example. 1h another strategy, an
advertiser may attempt to target its **ads** to more narrow niche
audiences, thereby increasing the likelihood of a positive response by
the audience. For example, an agency promoting tourism in the Costa Rican
rainforest might place **ads** on the ecotourism-travel subdirectory of the
Yahoo Website. An advertiser will normally determine such targeting
manually.

Regardless of the strategy, Website-based **ads** (also referred to as "Web
ads ") are often presented to their advertising audience in the form of
"banner **ads** " - i.e., a rectangular box that includes graphic
components. When a member of the advertising...

...64viewer" or "user" in the Specification without loss of generality)
selects one of these banner **ads** by clicking on it, embedded hypertext
links typically direct the viewer to the advertiser's Website. This
process, wherein the viewer selects an **ad** , is commonly referred to as a
4 6click-thiough" ("Click-through" is intended to cover...

...The ratio of the number of click-throughs to the number of impressions
of the **ad** (i.e., the number of times an **ad** is displayed) is commonly
referred to as the "click-through rate" of the **ad** . A "conversion" is
said to occur when a user consummates a transaction related to a
previously served **ad** . What constitutes a conversion may vary from case
to case and can be determined in...

...it may be the case that a conversion occurs when a user clicks on an **ad**
, is referred 0 to the advertiser's Web page, and consummates a purchase
there before...

...that Web page.

Alternatively, a conversion may be defined as a user being shown an **ad** ,
and making a purchase on the advertiser's Web page within a predetermined
time (e...

...possible. The ratio of the number of conversions to the number of
impressions of the **ad** (i.e., the number of times an **ad** is displayed)

is commonly referred to as the conversion rate, If a conversion is defined to be able to occur within a predetermined time since the serving of an **ad** , one possible definition of the conversion rate might only consider **ads** that have been served more than the predetermined time in the past.

Despite the initial promise of Website-based **advertisement** , there remain several problems with existing approaches. Although advertisers are able to reach a large audience, they are frequently dissatisfied with the return on their **advertisement** investment.

Similarly, the hosts of Websites on which the **ads** are presented (referred to as "Website hosts" or " **ad** consumers") have the challenge of maximizing **ad** revenue without impairing their users' experience. Some Website hosts have chosen to place advertising revenues...

...One such Website is "Overture.com", which hosts a so-called "search engine" service returning **advertisements** masquerading as "search results" in response to user queries.

The Overture.com Website permits advertisers to pay to position an **ad** for their Website (or a target Website) higher up on the list of purported search results. If such schemes where the advertiser only pays if a user clicks on the **ad** (i.e., cost-per-click) are implemented, the advertiser lacks incentive to target their **ads** effectively, since a poorly targeted **ad** will not be clicked and therefore will not require payment. Consequently, high cost-per-click **ads** show up near or at the top, but do not necessarily translate into real revenue for the **ad** publisher because viewers don't click on them. Furthermore, **ads** that viewers would click on are further down the list, or not on the list at all, and so relevancy of **ads** is compromised.

In some current auction-based online advertising systems, there can be multiple advertising positions on each Web page displayed. All **ads** typically have the same formatting, and are distinguished only by their position on the Web...

...positions near the top of the 0 Web page are typically the most desirable, since **ads** with such placement tend to garner the attention of more end users. However, the difference in value, assumed by advertisers, between various **ad** positions might not be too great. Accordingly, although advertisers might prefer that their **ads** have a higher position, they may nonetheless be content if their **ad** appears in a lower position. If **ad** positioning is based, at least is part, on price, advertisers might be content to pay...

...price for a lower position. If placement is based, at least in part, on some **performance measure** of the **ad** , advertisers might be content if the performance of their **ad** isn't optimized.

Thus, if advertisers don't perceive a sufficient advantage to higher placement positions, they might be content to pay less or to have **ads** with merely adequate performance. If the positioning is based, at least in part, on a...

...e.g., a rate of consummated purchases at their Website for users that select their **ad**), the advertiser might not be terribly motivated to improve their Website or e-commerce user...

...customer service.

As a result, end users may receive less focused and less rzle@@vant **ads** @ and poSsibly poorer e-commerce experiences. h/foreover, advertisers may be hurt by their own...

...need for niore effective advertising using interactive media and services, including a need to serve **ads** in a manner that increases their relevance to audience members, and/or their economic value to an advertiser and/or to an **ad** system.

' 2, SUMMARY OF THE INVENTION
The present invention provides a more effective advertising system that applies enhanced features (which presumably enhance the performance of the **ads**), selectively, to **ads** to increase the (actual or perceived) performance differentiation of **ads** . Moreover, the policies under which enhanced features are applied to **ads** may be used to motivate advertisers to (i) improve their **ads** , (ii) improve their Websites, (iii) better focus their **ad** campaign, and/or (iv) increase their **ad** budget.

' 3, BRIEF DESCRIPTION OF THE DRAWINGS
Figure 1 is a high-level diagram showing...

...to apply, 1 5 selectively, one or more enhanced presentation features to one or more **ads** , in a manner consistent with the present invention.

Figure 5 illustrates exemplary **ad** information that may be associated with an **ad** .

Figure 6 illustrates exemplary document information that may be associated with a document with which one or more **ads** are to be served.

Figure 7 is a high-level block diagram of apparatus that...
...message fon-nats and/or data structures for selectively applying enhanced presentation features to online **advertisements** . It is believed that doing so will server to increase competition to produce better **advertisements** and markets. The following description is presented to enable one skilled in the art to...

...1 is a high level diagram of an advertising environment. The environment may include an **ad** entry, maintenance and delivery system 120. Advertisers I 10 may directly, or 1 5 indirectly, enter, maintain, and track **ad** information in the system 120. The **ads** may be in the form of graphical **ads** such as so-called banner **ads** , text only **ads** , image **ads** , audio **ads** , video **ads** , **ads** combining one of more of any of such components, etc. The **ads** may also include embedded information, such as a link, meta information, and/or machine executable instructions.

Ad consumers 130 may submit requests for **ads** to, accept **ads** responsive to their request from, and provide usage information to, the system 120. Although not...

...usage information (e.g., whether or not a conversion or click-through related to the **ad** occurred) to the system 120. This usage information

may include measured or observed user behavior related to **ads** that have been served.

One example of an **ad** consumer 130 is a general content server that receives requests for content (c.g., arUclec...

...response to, or otherwise services, the request. The content server may submit a request for **ads** to the system 120. Such an **ad** request may include a number and/or type of **ads** desired. The **ad** request may also include content request information. This information may include the content itself (e...

...etc.

The content server may combine the requested content with one or more of the **advertisements** provided by the system 120. This combined information including the content and **advertisement** (s) is then forwarded towards the end user that requested the content, for presentation to the viewer. Finally, the content server may transmit information about the **ads** and how, when, and/or where the **ads** are to be rendered (e.g., position, click-through or not, impression time, impression date...
...be provided back to the system 120 by some other means.

Another example of an **ad** consumer 130 is a search engine. A search engine may receive queries for search results...

...of (e.g., ten) search 5 results.

The search engine may submit a request for **ads** to the system 120. The request may include a number of **ads** desired. This number may depend on the search results, the amount of screen or page space occupied by the search results, the size and shape of the **ads** , etc. In one embodiment, the number of desired **ads** will be from one to ten, and preferably from three to five. The request for **ads** may also include the query (as entered or parsed), information based on the query (such...

...etc.

The search engine may combine the search results with one or more of the **advertisements** provided by the system 120. This combined information including the search results and adve@tisement...

...for presentation to the user. Preferably, the search results are maintained as distinct from the **ads** , so as not to confuse the user between paid **advertisements** and presumably neutral search results.

The search engine may transmit information about the **ad** and when, where, and/or how the **ad** was to be rendered (e.g., position, click-through or not, impression time, impression date...

...provided back to the system 120 by some other means.

Yet another example of an **ad** consumer 130 is an e-mail server. The e-mail server may submit a request for **ads** to the system 120. The request may include a number of **ads** desired.

The request for **ads** may also include e-mail information. Such information may include, for example, body text from...

...The e-mail server may combine the e-mail with one or more of the **advertisements** provided by the system 120. This combined information including the e-mail and **advertisement** (s) may then be presentation to a user, such as a recipient or a sender. Finally, the e-mail server may transmit information about the **ad** and how the **ad** was to be rendered (e.g., position, click-through or not, impression time, impression date, size, etc.) back to the system 1 5 120.

'4,1,2 EXEMPLARY **AD** El
TTEY, MAINTENANCE Al
TD
DELIVERY ENVIRONMENT
Figure 2 illustrates an exemplary **ad** system 120' in which, or with which, the present invention may be used. The exemplary **ad** system 120' may include an inventory system 210 and may store **ad** information 205 and usage information 245. The exemplary system 120' may support **ad** information entry and management operations 215, campaign (e.g., targeting) aossistance operations , 220, accovnting and billing operations 225, **ad** serving operations 230, relevancy determination operations 235, optimization operations 240, relative presentation attribute assignment (e...

...result interface operations 260.

Advertisers I 10 may interface with the system 120' via the **ad** information entry and management operations 215 as indicated by interface 216. **Ad** consumers 130 may interface with the system 120' via the **ad** serving operations 230 as indicated by interface 231. **Ad** consumers 130 and/or other entities (not shown) may also interface with the system 120

...

...advertiser (e.g., a unique email address, a password, billing information, etc.). A "campaign" or " **ad** campaign" refers to one or more groups of one or more **advertisements** , and may include a start date, an end date, budget information, geo-targeting information, syndication...

...campaign for its motorcycle line. The campaign for its automotive line have one or more **ad** groups, each containing one or more **ads** . Each **ad** group may include a set of keywords, and a maximum cost bid (cost per click-though, cost per conversion, etc.). Alternatively, or in addition, each **ad** group may include an average cost bid (e.g., average cost per click-through, average...

...0 average cost bid may be associated with one or more keywords. As stated, each **ad** group may have one or more **ads** or "creatives" (That is, **ad** content that is ultimately rendered to an end user.). Naturally, the **ad** information 205 may include more or less information, and may be organized in a number of different ways.

The **ad** information 205 can be entered and managed via the **ad** information entry and 5 management operations 215. Campaign (e.g., targeting) assistance operations 220 can be employed to help advertisers

1 10 generate effective **ad** campaigns. For example, the campaign
assistance operations 220 can use information provided by the inventory
...

...in the context of advertising for use with a search engine, may track
all possible **ad** impressions, **ad** impressions already reserved, and **ad**
impressions available for given keywords. The **ad** serving operations
230 may service requests for **ads** from **ad** consumers 130. The **ad**
serving operations 230 may use relevancy determination operations 235 to
determine candidate **ads** for a given request. The **ad** serving
operations 230 may then use optimization operations 240 to select a final
set of one or more of the candidate **ads** . Finally, the **ad** serving
operations 230 may use relative presentation attribute, (e.g., position)
assignment operations 250 Lo order the presentation of the **ads** to be
returned. The fraud detection operations 255 can be used to reduce
fraudulent use...

...Finally, the results interface operations 260 may be used to accept
result information (from the **ad** consumers 130 or some other entity)
about an **ad** actually served, such as whether or not click-thiough
occurred, whether or not conversion occurred...

...or service was initiated or consummated within a predetermined time from
the rendering of the **ad**), etc. Such results information may be accepted
at interface 261 and may include information to identify the **ad** and
time the **ad** was served, as well as the associated result.

Various embodiments of the system 120 may...

...261,294 (incorporated herein by
reference), entitled "ACCENTUATING TERMS OR FEATURES OF INTEREST IN
AN **ADVERTISEMENT** ", filed on September 30, 2002 and listing Nina Marie
Kim as
the inventor;
(ii) U...

...Application Serial No. 60/439,354 (incorporated herein by
reference), entitled "METHOD AND APPARATUS FOR **ESTIMATING**
ELECTRONIC ADVERTISING INVENTORY", filed on January 10, 2003 and
listing
0 Magnus Sandburg, Eric Veach, John...
...No. 10/314,427 (incorporated herein by
reference), entitled "METHODS AND APPARATUS FOR SERVING RELEVANT
ADVERTISEMENTS ", filed on December 6, 2002 and listing Jeffrey Dean,
Georges
Harik and Paul Bucheit as...

...U.S. Patent Application Serial No. 10/375,900 (incorporated herein by
reference), entitled "SERVING **ADVERTISEMENTS** BASED ON CONTENT", filed
on February 26, 2003 and listing Darrell Anderson, Paul Bucheit, Alex...

...No. 10/1 12,656 (incorporated herein by
reference), entitled "METHODS AND APPARATUS FOR ORDERING
ADVERTISEMENTS BASED ON PERFORMANCE INFORMATION", filed on
March 29, 2002 and listing Jane Manning, Salar Kamangar...

...No. 10/1 12,654 (incorporated herein by
reference), entitled "NIETHODS AND APPARATUS FOR ORDERING
ADVERTISEMENTS BASED ON PERFORMANCE INFORMATION AND PRICE
INFORMATION", filed on March 29, 2002 and listing Salar...

...incorporated herein by
reference), entitled "AUTOMATED PRICE MAINTENANCE FOR USE WITH A
SYSTEM IN WHICH **ADVERTISEMENTS** ARE RENDERED WITH RELATIVE
PREFERENCE BASED ON PERFORMANCE INFORMATION AND PRICE
1 0 INFORMATION", filed...

...incorporated herein by
reference), entitled "AUTOMATED PRICE MAINTENANCE FOR USE WITH A
SYSTEM IN WHICH **ADVERTISEMENTS** ARE RENDERED WITH RELATIVE
PREFERENCES", filed on January 10, 2003 and listing Eric Veach and...

...Patent Application Serial No. 101419,692 (incorporated herein by
reference), entitled "Determining Contextual Information for
Advertisements and Using Such Determined Contextual Information to
Suggest Targeting Criteria and/or In The Serving of **Advertisements** ",
filed on April 21, 2003, and listing Amit Singhal, Mehran
Sahami, Amit Patel, and Steve...

...10/445,376 (incorporated herein by
reference), entitled "SCORING, MODIFYING SCORES OF, AND/OR FILTERING
ADVERTISEMENTS USING ADVERTISER INFORMATION", filed on May 23,
2003, and listing Jam, h4anning, Salor A i to. Kaniangar and Eric Vtac-h
as inventors.
' 4,1,3 DEFE
TITIO)TTS)
Online **ads** , such as those used in the exemplary systems described above
with reference to Figures I...

...be specified by an application and/or an advertiser. These features are
referred to as " **ad** features" below. For example, in the case of a text
ad , **ad** features may include a title line, **ad** text, executable code,
an embedded link, etc. In the case of an image **ad** , **ad** features may
additionally include images, etc. Depending on the type of online **ad** ,
ad features may include one or more of the following: text, a link, an
audio file, a video file, an image file, executable code, embedded
information, etc.

When an online **ad** is served, one or more parameters may be used to
describe how, when, and/or where the **ad** was served. These parameters
are referred to as "serving parameters" below. Serving parameters may
include...

...or more of the following: features of (including information on) a page
on which the **ad** is served (including one or more topics or concepts
determined to be associated with the...
...directory structure, etc.), a search query or search results associated
with the serving of the **ad** , a user characteristic (e.g., their
geographic location, the language they use, the type of...

...or affiliate site (e.g., America Online, Google, Yahoo) that initiated
the request that the **ad** is served in response to, an absolute position

of the **ad** on the page on which it is 1 5 served, a position (spatial or temporal) of the **ad** relative to other **ads** served, an absolute size of the **ad** , a size of the **ad** relative to other **ads** , a color of the **ad** , a number of other **ads** served, types of other **ads** served, time of day served, time of week served, time of year served, etc. Naturally...

...be used in the context of the invention.

Although serving parameters may be extrinsic to **ad** features, they may be associated with an **ad** as conditions or constraints. When used as serving conditions or constraints, such serving parameters are...

...constraints". For example, in some systems, an advertiser may be able to specify that its **ad** is only to be served on weekdays, no lower than a certain position, only to...:
...certain location, etc. As another example, in some systems, an advertiser may specify that its **ad** is to beserved on] y if a page or P ∨ rh query includes certain keywords or phrases.

" **Ad** infon-nation" may include any combination of **ad** features, **ad** serving constraints, information derivable from **ad** features or **ad** serving constraints (referred to as " **ad** derived infonnation"), and/or information related to the **ad** (referred to as " **ad** related information"), as well as an extensions of such information (e.g., information derived from **ad** related information).

A "document" is to be broadly interpreted to include any machine-readable and...

...content (e.g., e-mail fields and associated data, HTML tags and associated data, etc.). **Ad** spots in the document may be defined by embedded information or instructions. In the context...

...documents to which the instant document links.

A document may include one or more "available **ad** spots". Such available **ad** spots may be predetermined and be an inherent part of the document, may be subject to change, and/or may be determined as the document is being served. An **ad** consumer 130 may request **ads** from an **ad** server 120 to fill some or all of such available **ad** spots, An **ad** spot may b(,-:, abic to accommodate different type of **ads** , but may specify a certain type of **ad** .

Content from a document may be rendered on a "content rendering application or device,". Examples...

...generate one or more enhanced feature eligibility scores 330 for each of one or more **ads** based on information 320 about the **ads** . Enhanced feature application operations 340 may accept one or more **ads** (or **ad** identifiers), each having one or more enhanced feature eligibility scores 330, and may determine whether or not to apply various enhanced features to each of the **ads** based on their scores using an enhanced feature application 1 0 policy 350. It 340 may also use information 360 about a document with which the **ads** will be served in its determination.

Possible enhanced presentation features for **ads** may include one or more

of the following: (i) larger **ad** size; (ii) louder **ad** volume; (iii) brighter or more vivid **ad** display; (iv) larger .**ad** font size; (v) emphasizing font types (unique font styles, bolding, italics, underlining, 1 5 flashing...

...content (e.g., longer temporally, more text, etc.); (vii) enhanced color schemes; (viii) animation (within **ad** and/or within document); (ix) video; (x) sound; (xi) sound effects; (xii) persisting, or lasting...

...interactivity, etc. Other enhanced features are possible. Generally, enhanced features improve the performance of an **ad** .

'4,2,1...used to determine whether or not to apply one, or more enhanced features to ail **ad** , in a manner consistent with the present invention. One or more enhanced feature eligibility scores for the **ad** is determined (or accepted if already determined). (Block 4 1 0) Then, it is determined...

...s) (Block 420) before the method 400 is left (Node 430).

'4,2,2 EXEMPLARY **AD** INFORMATION
Figure 5 illustrates exemplary **ad** information 500 that may be associated with an **ad** . As shown, the **ad** information may include **ad** content information (e.g., one or more of text information, image information, video information, audio information, executable information, link information, etc.) 510, **ad** targeting (i.e., **ad** serving constraints such as keywords, geolocation, etc., for example) information 520, advertiser information 530, price information 540, **ad** performance information 550, and/or enhanced feature preferences 560. Such information 520, 530, 540, 550 and/or 560 may be associated with an **ad** , but alternatively may 0 be associated with some set of **ads** such as an **ad** group, or an **ad** campaign for example.

In accordance with one embodiment of the present invention, the **ad** information 500 includes enhanced feature preferences 560. For example, instead of relying on some measure...

...5 to specify which enhanced feature or features it prefers to have applied to its **ad** . For example, suppose **ads** with flashing text in bold on a brightly colored background with a chaser-light border...

...custom suit tailor specializing in conservative business suits for example, might well prefer more restrained **ads** in keeping with a more conservative image. Enhanced feature preferences allow an advertiser to customize...

...stated preference with regard to one or more enhanced features does not guarantee that the
ad will be entitled to be rendered with such enhanced features.)
'4,2.3 E.ZEIAFLAF...

...document information 600 that may be associated with a document with which one or more **ads** are to be served. The document information may include, among other things, a total number of **ad** spots available, restrictions, if any, on enhanced features to be applied to **ads** served with the document, etc.

'4,2,4 EXEMPLARY TECHNIQUES FOR
DETERMINING ENHANCED FEATURE
ELIGIBILITY SCORE(S)
Referring back to block 410 of Figure 4, for a given **ad** , the enhanced
feature eligibility score(s) may be determined using, perhaps among other
things, (i) price information associated with the **ad** , (ii) performance
information associated with the **ad** , and/or (iii) quality information
about an advertiser associated with the **ad** . Such information may be
generally considered to be
ad information. (Recall, e.g., Figure 5.)
0 By way of example, the price information may...
...the following.

(a) an amount that an advertiser has agreed to pay each time the **ad** is
rendered; (b) a maximum amount that an advertiser has expressed that it
is willing to pay each time the **ad** is rendered; (c) an amount that an
advertiser has agreed to pay each time the **ad** is rendered and selected;
(d) a maximum amount that an advertiser has expressed that it is willing
to pay each time the **ad** is 5 rendered and selected; (e) an average over
time of the amount that the advertiser has agreed to pay each time the
ad is rendered and selected; (f) an average over time of the maximum
amount that the advertiser has expressed that it is willing to pay each
time the **ad** is rendered and selected; (g) an amount that the advertiser
has agreed to pay each time the **ad** is rendered and a conversion,
associated with the **ad** , occurs; (h) a maximum amount that the
advertiser has expressed that it is willing to pay each time the **ad** is
rendered and a conversion, associated with the **ad** , occurs; (i) cost per
selection information; 0) cost per conversion information; (k) an average
of...

...time; etc.

The performance information may be a measure of user interest in the
associated **advertisement** . For e,@:ample, performance information irtay
be a function of one or more, of the following: (a) a click-through rate
of the associated **advertisement** , (b) user ratings of the **advertisement**
, (c) focus group ratings of the **advertisement** , (d) a measurr.- of user
interest for the **advertisement** weighted for a size (or some other
enhanced feature) of the **advertisement** relative to that of other
advertisements , (e) a measure of user interest for the **advertisement**
weighted for past positions of the **advertisement** relative to those past
positions of other **advertisements** , (f) expected user interest in the
advertisement , (g) a time needed to render the **advertisement** relative
to that needed to render other **advertisements** , (h) a measure of user
interest for the **advertisement** weighted for a media type of the
advertisement , (i) a conversion rate associated with the **advertisement**
, etc. The performance information may include estimates of user interest
in the associated **advertisement** .

The advertiser information may include advertiser quality information.
Advertiser quality information may include one or...

...U.S. Patent Application No. 10/1 12,656, entitled "METHODS AND APPARATUS
FOR ORDERING
ADVERTISEMENTS BASED ON PERFORMANCE INFORMATION", filed on March 29,

2002 and listing Jane Manning, Salar Arta...

...Application No. 10/445,376, entitled "SCORE
TG, MODIFYING SCORES OF, Al'%fTD/0R FILTERING
ADVERTISEMENTS USING ADVERTISER INFORMATION," filed on May 23, 2003 and
listing Jane Manning, Salar Karnangar, and...

...may also reflect some measure of the relevance (e.g., an IR score) of
the **ad**.

In one embodiment of the present invention, a single enhanced feature
eligibility score is determined for a given **ad**. In another embodiment
of the present invention, more than one enhanced feature eligibility
score are determined for each **ad**. For example, an **ad** may have an
enhanced feature eligibility score determined for (i) each enhanced
feature permitted on...

...TECHNIQUES FOR DETERMINING
WHETHER OR NOT TO APPLY ONE OR MORE
ENHANCED FEATURES TO AN **AD** USING, AT LEAST,
0 ITS ONE OR MORE ENHANCED FEATURE ELIGIBILITY
SCORES
Referring back to block 420 of Figure 4, for a given **ad**, it is
detennined whether or not to apply one or more enhanced features to the
ad using, at least, one or more determined enhanced 5 feature
eligibility scores. One or more...

...also be a function of document restrictions, advertiser preferences,
and/or other scores of competing **ads**, etc. Thus, whether or not to
apply enhanced features to an **ad** may be performed in multiple stages.
For example, it may first be determined whether or not the **ad** is
"eligible" to be presented with enhanced features (e.g., using at least
the eligibility score(s) of the **ad**). Then it can be determined whether
or not the enhanced features will, in fact, be applied to the **ad** (e.g.,
based on enhanced feature eligibility score(s) of other **ads**, document
restrictions, and/or policies, etc.).

In one embodiment of the invention, a single enhanced feature eligibility
score is determined for a given **ad**. Whether or not to apply one or more
enhanced features, or one or more enhanced...

...one embodiment, this score may be decreased as the enhanced features are
applied to the **ad**.
In another embodiment of the invention, different enhanced feature
eligibility scores are determined for a given **ad**. Whether or not to
apply one or more enhanced features, or one or more enhanced...

...the context of the present invention, no input devices, other than those
needed to accept **ad** information, policy infon-nation, and document
information, and possibly tho3e for system administration and maintenance
...

...context of presentation ordering operation(s), no output devices, other
than those needed to communicate **ads** and any enhanced features to be
applied to such **ads**, and possibly those for system administration and
maintenance, are needed.

...1 NORMALIZING PERFORMANCE INFORMATION TO REMOVE INFLUENCE OF ENHANCED FEATURES

Since the performance of an **ad** may be (and indeed is expected to be) influenced by the application of enhanced features...

...or more enhanced features is determined using, in some way, such past performance of the **ad** , it may be 0 desirable to remove the influence that the prior application of enhanced features had on the **ad** 's performance.

For example, consider a document in which two **ads** , **ad** A and **ad** B, are to be served.

Assume that only one of the **ads** will be permitted to be rendered with bold text and a color background (e.g., due to a document restriction or some policy). Suppose further that **ad** A has 5 been rendered in the past in with bold text and a color background, and has a click-through rate of 0.30, and that **ad** B has been rendered in the past with a normal text and a white background...

...bold type and color background will be based solely on click-through rate of the **ad** . Although **ad** A may have a better click-through rate than **ad** B, some of its performance may very well be attributable to the fact that it was rendered in bold text with a color background in the past, while **ad** B was not. It may turn out that if the performance of **ad** A were normalized to remove the influence of these enhanced features, it would only have an expected click-through rate of 0 Accordingly, in this example, **ad** B might "win" the right to be rendered with bold typeface and with a color background, even though **ad** A has had better actual performance.

...others, and might even want to avoid the application of certain enhanced features to its **ad** or **ads** .

Referring back to Figure 5, the enhanced feature preference information 560 may reflect or encode...

...Alternatively, or in addition, certain enhanced features might be implicitly excluded. For example, if the **ad** content information 510 does not include any video information, it will not include video as...

...example of such preference information is provided below.

Grouping 1 rank = 1 exclude? = no
(larger **ad** /more text)
Grouping 2 rank = exclude? = yes
(vivid color scheme and audio effects)
0 Grouping...

...no
(traditional color scheme and italics)
Grouping 4 rank = - exclude? = yes
(video and audio)
Larger **ad** size rank = 2 exclude? = no
5 Larger font size rank = 4 exclude? = no
Bold font...

...this example, the advertiser prefers that the enhanced feature "grouping
I" be applied to its **ad** , then larger **ad** size, then more text, then
larger font size, then bold font type, then persistence, and...

...features, such as "grouping 3", pop tip and pop under, to be applied to
its **ad** , but expressed no preference with respect to these features.
Finally, the advenrtiser would preclude, enhanced...

...6 6grouping 4", vivid color scheme, animation, video and sound from
being applied to its **ad** or **ads** .
' 4,2*7,3 PERMITTING CONTENT PROVIDER
CONTROL
In one embodiment of the invention, the content provider can exclude **ads**
from being rendered with certain enhanced features on its document. For
example, a content provider might exclude pop up **advertisements** , or
advertisements with sound.

' 413A USING **AD** FEATURES TO SIGNAL **AD**
USEFULNESS
In one embodiment of the invention, feature changes, such as applying
enhanced features (or...

...example, may also be used to indicate to the user the general quality of
the **advertisements** . For example, if the predicted performance of most
of the **ads** on a page is poor, then all **ads** may be rendered in a
smaller size, less noticeable colors, or in a different region...

...This provides an incentive for 0 advertisers to improve the targeting
and relevance of their **advertisements** , and it provides users with an
(e.g., visual) indicator of the usefulness of the **ads** .

' 4,2*7,5 ENHANCED **AD** FEATURES WITH RESPECT
TO A SET OF EXPECTED **AD** SERVES
5
Although some of the foregoing embodiments focus on **ads** competing for a
given page view, the principles of the present invention could be applied
to **ads** that compete, ahead of time, on an aggregation of expected page
views. In such an embodiment, enhanced features could include "primetime"
serving, "prime location" serving, etc. For example, **ads** shown between
10 AM and 2 PM might generally perform better than those shown between 3
AM and 6 AM local time. In this case, serving an **ad** for rendering at a
"primetime" could be thought of as an enhanced feature. In another
example, **ad** served to a specific local n-Aght perform those served to
another local. In this case, serving an **ad** for rendering at a "prime
location" could be thought of as an enhanced feature.

4...

...FROVIDEID AS "SEARCH
·EM-ULITS"
The present invention can be applied to many types of **ads** , including
ads purporting to be search results. In this case, enhanced features may
be applied to purported...
...43 EXEMPLARY OPERATIONS IN AN EXEMPLARY EM[BODIM[ENT
In the following example, suppose three **ads** , A, 13, and C are to be
served with a document. Suppose further that **ad** A has the following
preferences.

Larger **ad** size rank = I exclude? = no
Larger font size rank = - exclude? = no
Bold font type rank...

...no
Color schemes (vivid) rank = - exclude? = yes
0 Color schemes (traditional) rank 3 exclude? = no;
 ad B has the following preferences.

Larger **ad** size rank = 2 exclude? = no
5 Larger font size rank = - exclude? = no
Bold font type...

...no
Color schemes (vivid) rank = 1 exclude? = no
Color schemes (traditional) rank exclude? = yes;
and **ad** C has no preferences. Suppose further that the **ad** A has a
feature eligibility score of 100, **ad** B has a feature eligibility score
 of 150 and **ad** C has a feature eligibility score of 75. Suppose that the
`following policy thresholds are used to determine whether enhanced
features may be applied (i.e., whether the **ad** is eligible for such
enhanced features).

Bold font type score > 100
Color schemes (vivid) score...

...traditional) score > 50
More te"z@r@t score > 200 ANU remaining score 100
Larger **ad** @'Jse reiwa-ftiinu score > 75
Larger rcont slEe remaining score >75
In one ertibodimtnt of...

...advertiser has a different rank order). Suppose, that such scores are
decreased by 60 as **ad** features are added. Finally, suppose that the
document restrictions include (i) excluding the vivid color scheme, and
(ii) limiting the number of larger **ads** to one.

In this example, **ad** B would be rendered with a larger **ad** size (since
its score was higher than that of **ad** A and its remaining score (150) is
>75), with a larger font size (since its remaining score (150-60)>75),
and with bold font type (since its score > 100). However, **ad** B would
not have more text (since its score <200 and since its remaining score
(150 60)< 100).

Although **ad** B would be eligible to have a vivid color scheme (since its
score > 50), it would not have such a vivid color scheme applied due to a

document restriction. Although **ad** A would be eligible to have a larger font size, since **ad** B already has this feature and a document restriction limits the number of larger **ads** to one, **ad** A would not have a larger **ad** size enhanced feature applied. **Ad** A would be rendered with a traditional color scheme (since its score > 50). **Ad** C '
4A CONCLUSIONS 5 As can be appreciated from the foregoing disclosure, present invention can be used to selectively apply enhanced features to one or more **ads** . If desired **ad** or advertiser characteristics are used in the determination of whether or not to apply certain enhanced features to the **ad** , advertisers will be motivated to provide or obtain such desired characteristics.

Determining whether or not to apply enhanced **ad** features in this way should lead to better **ads** and markets than simply having advertisers pay a fixed surcharge for various formatting options (which provides advertisers with little or no incentive to improve the content of their **ads** or their Website).

The foregoing description of preferred embodiments of the present invention provides illustration...

Claim
1 A method comprising:
a) accepting price information associated with an **advertisement** ; and
b) determining whether or not to apply one or more enhanced features to the **advertisement** using, at least, the accepted price information.

2 The method of claim 1 wherein the act of determining whether or not to apply one or more enhanced features to the **advertisement** includes determining at least one enhanced feature
eligibility score using, at least, the accepted price...

...act of determining whether or not to apply one or more enhanced features to the **advertisement** further uses information about a document with which the **advertisement** will be served.

4 The method of cUm 3 wherein the information about the document...

...act of determining whether or not to apply one or more enhanced features to the **advertisement** further uses at least one enhanced feature eligibility score of at least one other **advertisement** .
6 The method of claim 2 wherein the act of determining whether or not to apply one or more enhanced features to the **advertisement** further uses (i) at least one enhanced feature eligibility score of at least one other **advertisement** , and (ii) information about a document with which the **advertisement** will be served.

7 The method of claim I wherein the at least one enhanced feature includes at least one of (A) increasing a size of the **advertisement** , (B) increasing a font size of text in the **advertisement** , (C) changing a font type of text in the **advertisement** , (D) increasing an amount of text shown in the **advertisement** , (E) providing enhanced color schemes to the **advertisement** , (F) providing the **advertisement** with animation, (G) providing the **advertisement** with video, (H) providing the **advertisement** with sound, (1) providing the **advertisement** with sound effects, (J) providing the **advertisement** with persistence, (K)

providing the **advertisement** in a pop-up window, (L) providing the
advertisement in a way that occludes document content, (M) providing the
advertisement in a pop under window, (N) providing the **advertisement**
with a border, (0) 1 0 providing the **advertisement** with an enhanced
border, (P) providing the **advertisement** at a 1 1 desired location on
the document, (Q) providing the **advertisement** in a desired shape, and
(R) 1 2 providing the **advertisement** with programmed interactivity.
8 The method of claim I wherein the price information includes at...

...one of (A) an amount that an advertiser has agreed to pay each time the
ad is rendered, (B) a maximum amount that an advertiser has expressed
that it is willing to pay each time the **ad** is rendered, (C) an amount
that an advertiser has agreed to pay each time the **ad** is rendered and
selected, (D) a maximum amount that an advertiser has expressed that it
is willing to pay each time the **ad** is rendered and selected, (E) an
average over time of the amount that the advertiser has agreed to pay
each time the **ad** is rendered and selected, (F) an average over time of
the maximum amount that the advertiser has expressed that it is willing
to pay each time the **ad** is rendered and selected, (G) an amount that
the advertiser has agreed to pay each time the **ad** is rendered and a
conversion, 1 0 associated with the **ad** , occurs, (H) a maximum amount
that the advertiser is willing to pay each 1 1 time the **ad** is rendered
and a conversion, associated with the **ad** , occurs, (1) cost per
selection 1 2 information, (J) cost per conversion information, (K) an...

...conversion information over time.

9 A method comprizing:
a) accepting performance information associated with an **advertisement** ;
and b) detern-lirling whether or not to apply one or more enhanced
features to the **advertisement** using, at least, the accepted performance
information.

10 The method of claim 9 wherein the act of determining whether or not to
apply one or more enhanced features to the **advertisement** includes
determining at least one enhanced feature
eligibility score using, at least, the accepted performance...

...the determination of whether or not to apply one or more enhanced
features to the **advertisement** uses at least the at least one enhanced
feature eligibility score and a policy. 1...

...act of deterrnining whether or not to apply one or more enhanced
features to the **advertisement** further uses information about a document
with which the **advertisement** will be served.

12 The method of claim I I wherein the information about the...

...act of determining whether or not to apply one or more enhanced features
to the **advertisement** further uses at least one enhanced feature
eligibility score of at least one other **advertisement** .
14 The method of claim 10 wherein the act of determining whether or not
to apply one or more enhanced features to the **advertisement** further
uses (i) at least one enhanced feature eligibility score of at least one
other **advertisement** , and (ii) information about a document with which

the advertisement will be served.

15 The method of claim 9 wherein the at least one enhanced feature includes at least one of (A) increasing a size of the advertisement , (B) increasing a font size of text in the advertisement , (C) changing a font type of text in the advertisement , (D) increasing an amount of text shown in the advertisement , (E) providing enhanced color schemes to the, advertisement , (F) providing the advertisement with animation, (G) providing the advertisement with video, (H) providing the advertisement with sound, (1) providing the advertisement with sound effects, (J) providing the advertisement with persistence, (K) providing the advertisement in a pop-up window, (L) providing the advertisement in a way that occludes document content, (ND providing the advertisement in a pop under window, (N) providing the advertisement with a border, (0) 0 providing the advertisement with an enhanced border, (P) providing the advertisement at a 1 desired location on the document, (Q) providing the advertisement in a desired shape, and (R) 2 providing the advertisement with programmed interactivity.
16 The method of claim 9 wherein the performance information includes at least one of (A) a click-through rate of the associated advertisement , (B) user ratings of the advertisement , (C) focus group ratings of the advertisement , (D) a measure of user interest for the advertisement weighted for a size of the advertisement relative to that of other advertisements , (E) a measure of user interest for the advertisement weighted for past positions of the advertisement relative to those past positions of other advertisements , (F) a measure of user interest for the advertisement weighted for enhanced features applied to the advertisement in the past, (G) expected user interest in the advertisement , (H) a time needed to render the advertisement relative to that needed to render other advertisements , (1) a measure of user interest for the advertisement 1 0 weighted for a media type of the advertisement , (J) a conversion rate associated with the 1 1 advertisement .

17 The method of claim 9 wherein the performance information has been adjusted to reduce the influence of enhanced features previously applied to the advertisement .

18 A method comprising:
a) accepting advertiser information associated with an advertisement ;
and b) determining whether or not to apply one or more enhanced features to the advertisement using, at least, the accepted advertiser information.

19 The method of claim 18 wherein the act of determining whether or not to apply one or more enhanced features to the advertisement includes determining at least one enhanced feature
eligibility score using, at least, the accepted advertiser...

...the determination of whether or not to apply one or more enhanced features to the advertisement uses at least the at least one enhanced feature eligibility score and a policy.

20...

...act of determining whether or not to apply one or more enhanced features

to the **advertisement** further uses information about a document with which the **advertisement** will be served.

21 The method of claim 20 wherein the information about the document...

...act of determining whether or not to apply one or more enhanced features to the **advertisement** further uses at least one enhanced feature eligibility score of at least one other **advertisement** .

23 The method of claim 19 wherein the act of determining whether or not to apply one or more enhanced features to the **advertisement** further uses (i) at least one enhanced feature eligibility score of at least one other **advertisement** , and (ii) infonnation about a document with which the **advertisement** will be served.

24 The method of claim 18 wherein the at least one enhanced feature includes at least one of (A) increasing a size of the **advertisement** , (B) increasing a font size of text in the **advertisement** , (C) changing a font type of text in the **advertisement** , (D) increasing an amount of text shown in the **advertisement** , (E) providing enhanced color schemes to the **advertisement** , (F) providing the **advertisement** with animation, (G) providing the **advertisement** with video, (H) providing the **advertisement** with sound, (1) providing the **advertisement** with sound effects, (J) providing the **advertisement** with persistence, (K) providing the **advertisement** in a pop-up window, (L) providing the **advertisement** in a way that occludes document content, (IM) providing the **advertisement** in a pop under window, (N) providing the **advertisement** with a border, (0) 0 providing the **advertisement** with an enhanced border, (P) providing the **advertisement** at a 1 desired location on the document, (Q) providing the **advertisement** in a desired shape, and (R) 2 providing the **advertisement** with programmed interactivity.

25 The method of claim 18 wherein the advertiser information includes at ...

...26 A method comprising:
a) accepting at least two of
- price information associated with an **advertisement** ,
- performance information associated with an **advertisement** , and
- advertiser information associated with an **advertisement** ; and
b) determining whether or not to apply one or more enhanced features to the **advertisement** using, at least, the accepted at least two of price information, performance information, and advertiser...

...act of determining whether or not to apply one or more enhanced features to the **advertisement** includes determining at least one enhanced feature eligibility score using, at least, the accepted at...

...the determination of whether or not to apply one or more enhanced features to the **advertisement** uses at least the at least one enhanced feature eligibility score and a policy.

28...

...act of determining whether or not to apply one or more enhanced features

to the **advertisement** further uses information about a document with which the **advertisement** will be served.

29 The method of claim 28 wherein the information about the document...

...act of determining whether or not to apply one or more enhanced features to the **advertisement** further uses at least one enhanced feature eligibility score of at least one other **advertisement** . 3 1. The method of claim 27 wherein the act of determining whether or not to apply one or more enhanced features to the **advertisement** further uses (i) at least one enhanced feature eligibility score of at least one other **advertisement** , and (ii) information about a document with which the **advertisement** will be served.

32 The method of claim 26 wherein the at least one enhanced feature includes at least one of (A) increasing a size of the **advertisement** , (B) increasing a font size of text in the **advertisement** , (C) changing a font type of text in the **advertisement** , (D) increasing an amount of text shown in the **advertisement** , (E) providing enhanced color schemes to the **advertisement** , (F) providing the **advertisement** with animation, (G) providing the **advertisement** with video, (H) providing the **advertisement** with sound, (I) providing the **advertisement** with sound effects, (J) providing the **advertisement** with persistence, (K) providing the **advertisement** in a pop-up window, (L) providing the **advertisement** in a way that occludes document content, (M) providing the **advertisement** in a pop under window, (N) providing the **advertisement** with a border, (0) 1 0 providing the **advertisement** with an enhanced border, (P) providing the **advertisement** at a 1 1 desired location on the document, (Q) providing the **advertisement** in a desired shape, and (R) 1 2 providing the **advertisement** with programmed interactivity.

33 A method comprising:
a) accepting
- price information associated with an **advertisement** ,
- performance information associated with an **advertisement** , and
- advertiser information associated with an **advertisement** ; and
b) determining whether or not to apply one or more enhanced features to the **advertisement** using, at least, the accepted price information, performance information, and advertiser information.

34 The method...

...act of determining whether or not to apply one or more enhanced features to the **advertisement** includes determining at least one enhanced feature eligibility score using, at least, the accepted price...

...the determination of whether or not to apply one or more enhanced features to the **advertisement** use@3 at least the at least one. enhanced feature eligibility score and a policy...

...act of determining whether or not to apply one or more enhanced features to the **advertisement** further uses information about a document with which the **advertisement** will be served.

36 The method of claim 35 wherein the information about the document...

...act of determining whether or not to apply one or more enhanced features to the advertisement further uses at least one enhanced feature eligibility score of at least one other advertisement .

38 The method of claim 34 wherein the act of determining whether or not to apply one or more enhanced features to the advertisement further uses (i) at least one enhanced feature eligibility score of at least one other advertisement , and (ii) information about a document with which the advertisement will be served.

39 The method of claim 33 wherein the at least one enhanced feature includes at least one of (A) increasing a size of the advertisement , (B) increasing a font size of text in the advertisement , (C) changing a font type of text in the advertisement , (D) increasing an amount of text shown in the advertisement , (E) providing enhanced color schemes to the advertisement , (F) providing the advertisement with animation, (G) providing the advertisement with video, (H) providing the advertisement with sound, (1) providing the advertisement with sound effects, (J) providing the advertisement with persistence, (K) providing the advertisement in a pop-up window, (L) providing the advertisement in a way that occludes document content, (M-) providing the advertisement in a pop under window, (N) providing the advertisement with a border, (0) 0 providing the advertisement with an enhanced border, (P) providing the advertisement at a 1 desired location on the document, (Q) providing the advertisement in a desired shape, and (R) 2 providing the advertisement with programmed interactivity.

40 Apparatus comprising:
a) an input for accepting price infoimaLion asosocioted witli...

...means for determining whether or not to apply one or more enhanced features to the advertisement using, at least, the accepted price information.

41 The apparatus of claim 40 wherein the means for determining whether or not to apply one or more enhanced features to the advertisement includes means for determining uses at least one enhanced feature eligibility score using, at least...

...means for determining whether or not to apply one or more enhanced features to the advertisement further uses information about a document with which the advertisement will be served.

43 The apparatus of claim 42 wherein the information about the document
...

...means for determining whether or not to apply one or more enhanced features to the advertisement further uses at least one enhanced feature eligibility score of at least one other advertisement .

45 The apparatus of claim 41 wherein the means for determining whether or not to apply one or more enhanced features to the advertisement further uses (i) at least one enhanced feature eligibility score of at least one other advertisement , and (ii) information about a document with which the advertisement will be served.
I

46 The apparatus of claim 40 wherein the at least one enhanced feature includes at least one of (A) increasing a size of the **advertisement**, (B) increasing a font size of text in the **advertisement**, (C) changing a font type of text in the **advertisement**, (D) increasing an amount of text shown in the **advertisement**, (E) providing enhanced color schemes to the **advertisement**, (F) providing the **advertisement** with animation, (G) providing the **advertisement** with video, (H) providing the **advertisement** with sound, (1) providing the **advertisement** with sound effects, (J) providing the **advertisement** with persistence, (K) providing the **advertisement** in a pop-up window, (L) providing the **advertisement** in away that occludes document content, (i /I) providing the, **advertisement** in a pop under window, QX) providing the, **advertisement** with a border, (0) I 0 providing the **advertisement** with an enhanced border, (P) providing the **advertisement** at a 1 desired location on the document, (Q) providing the **advertisement** in a desired shape, and (R) 2 providing the **advertisement** with programmed interactivity.

47 The apparatus of claim 40 wherein the price information includes at...

...one of (A) an amount that an advertiser has agreed to pay each time the **ad** is rendered, (B) a maximum amount that an advertiser has expressed that it is willing to pay each time the **ad** is rendered, (C) an amount that an advertiser has agreed to pay each time the **ad** is rendered and selected, (D) a maximum amount that an advertiser has expressed that it is willing to pay each time the **ad** is rendered and selected, (E) an average over time of the amount that the advertiser has agreed to pay each time the **ad** is rendered and selected, (F) an average over time of the maximum amount that the advertiser has expressed that it is willing to pay each time the **ad** is rendered and selected, (G) an amount that the advertiser has agreed to pay each time the **ad** is rendered and a 0 conversion, associated with the **ad**, occurs, (H) a maximum amount that the advertiser is willing 1 to pay each time the **ad** is rendered and a conversion, associated with the **ad**, occurs, (1) cost per 2 selection information, (J) cost per conversion information, (K) an average...

...over time.

48 Apparatus comprising:
a) an input for accepting performance information associated with an **advertisement**; and b) means for determining whether or not to apply one or more enhanced features to the **advertisement** using, at least, the accepted performance information.

49 The apparatus of claim 48 wherein the means for determining whether or not to apply one or more enhanced features to the **advertisement** includes means for determining at least one enhanced feature eligibility score using, at least, the...

...means for determining whether or not to apply one or more enhanced features to the **advertisement** further uses information about a document with which the adveitisement will be served.

51 The...

...means for determining whether or not to apply one or more enhanced features to the **advertisement** further uses at least one enhanced feature eligibility score of at least one other **advertisement** .

53 The apparatus of claim 49 wherein the means for determining whether or not to apply one or more enhanced features to the **advertisement** further uses (i) at least one enhanced feature eligibility score of at least one other **advertisement** , and (ii) information about a document with which the **advertisement** will be served.

54 The apparatus of claim 48 wherein the at least one enhanced feature includes at least one of (A) increasing a size of the **advertisement** , (B) increasing a font size of text in the **advertisement** , (C) changing a font type of text in the **advertisement** , (D) increasing an amount of text shown in the **advertisement** , (E) providing enhanced color schemes to the **advertisement** , (F) providing the **advertisement** with animation, (G) providing the **advertisement** with video, (H) providing the **advertisement** with sound, (1) providing the **advertisement** with sound effects, (J) providing the **advertisement** with persistence, (K) providing the **advertisement** in a pop-up window, (L) providing the **advertisement** in a way that occludes document content, (M) providing the **advertisement** in a pop under window, (N) providing the **advertisement** with a border, (0) 1 0 providing the **advertisement** with an enhanced border, (P) providing the **advertisement** at a 1 1 desired location on the document, (Q) providing the **advertisement** in a desired shape, and (R) 1 2 providing the **advertisement** with programmed interactivity.

55 The apparatus of claim 48 wherein the performance information includes at least one of (A) a click-through rate of the associated **advertisement** , (B) user ratings of the **advertisement** , (C) focus group ratings of the **advertisement** , (D) a measure of user interest for the **advertisement** weighted for a size of the **advertisement** relative to that of other **advertisements** , (E) a measure of user interest for the **advertisement** weighted for past positions of the **advertisement** relative to those past positions of other **advertisements** , (F) a ineasure of user interest for Lhe **ad** @,fertisement weighted for enhanced features applied to the **advertisement** in the past, (Q) expected user interest in the **advertisement** , (H) a time, needed to render the **advertisement** relative to that needed to render other **advertisements** , (1) a measure of user interest for the **advertisement** 1 0 weighted for a media type of the **advertisement** , (J) a conversion rate associated with the 1 1 **advertisement** .

56 The apparatus of claim 48 wherein the performance information has been adjusted to reduce the influence of enhanced features previously applied to the **advertisement** .

57 Apparatus comprising:
a) an input for accepting advertiser information associated with an **advertisement** ; and b) means for determining whether or not to apply one or more enhanced features to the **advertisement** using, at least, the accepted advertiser information.

58 The apparatus of claim 57 wherein the means for determining whether or not to apply one or more enhanced features to the **advertisement** includes means for determining at least one enhanced feature eligibility

score using, at least, the...

...means for determining whether or not to apply one or more enhanced
features to the **advertisement** uses, at least, the at least one feature
eligibility score and a policy.

59 The...

...means for determining whether or not to apply one or more enhanced
features to the **advertisement** further uses information about a document
with which the **advertisement** will be served.
60 The apparatus of claim 59 wherein the information about the document
...

...means for determining whether or not to apply one or more enhanced
features to the **advertisement** further uses at least one enhanced
feature eligibility score of at least one other **advertisement** .

62 The apparatus of claim 58 wherein the means for determining whether or
not to...

...further uses (i) at least one cithanced feature eligibility score of at
least one other **advertisement** , and (ii) infolination about a document
with which the **advertisement** will be served.

63 The apparatus of claim 57 wherein the at least one enhanced feature
includes at least one of (A) increasing a size of the **advertisement** ,
(B) increasing a font size of text in the **advertisement** , (C) changing a
font type of text in the **advertisement** , (D) increasing an amount of
text shown in

4 the **advertisement** , (E) providing enhanced color schemes to the
advertisement , (F) providing the **advertisement** with animation, (G)
providing the **advertisement** with video, (H) providing the
·advertisement with sound, (1) providing the **advertisement** with sound
effects, (J) providing the **advertisement** with persistence, (K)
providing the **advertisement** in a pop-up window, (L) providing the
advertisement in a way that occludes document content, (M) providing the
advertisement in a pop under window, (N) providing the **advertisement**
with a border, (0) 0 providing the **advertisement** with an enhanced
border, (P) providing the **advertisement** at a 1 desired location on the
document, (Q) providing the **advertisement** in a desired shape, and (R) 2
providing the **advertisement** with programmed interactivity.

64 The apparatus of claim 57 wherein the advertiser information includes
at...

...comprising:
a) an input for accepting at least two of
- price information associated with an **advertisement** ,
- performance information associated with an **advertisement** , and
- advertiser information associated with an **advertisement** ; and
b) means for determining whether or not to apply one or more enhanced
features to the **advertisement** using, at least, the accepted at least
two of price information, performance infonnation, and advertiser...
...the means for determining whether or not toapply one or more enhanced

features to the, **advertisement** includes means for determining at least
one enhanced feature eligibility score using, at least, the...

...information,
wherein the means for detennining whether or not to apply one or more
enhanced **ad** features to the **advertisement** uses, at least, the at
least one enhanced feature eligibility score and a policy.

67...

...means for determining whether or not to apply one or more enhanced
features to the **advertisement** further uses information about a document
with which the **advertisement** will be served.

68 The apparatus of claim 67 wherein the information about the document
...

...means for determining whether or not'to apply one or more enhanced
features to the **advertisement** further uses at least one enhanced
feature eligibility score of at least one other **advertisement** .
70 The apparatus of claim 66 wherein the means for determining whether or
not to apply one or more enhanced features to the **advertisement** further
uses (i) at least one enhanced feature eligibility score of at least one
other **advertisement** , and (ii) information about a document with which
the **advertisement** will be served.

71 The apparatus of claim 65 wherein the at least one enhanced feature
includes at least one of (A) increasing a size of the **advertisement** ,
(B) increasing a font size of text in the **advertisement** , (C) changing a
font type of text in the **advertisement** , (D) increasing an amount of
text shown in the **advertisement** , (E) providing enhanced color schemes
to the **advertisement** , (F) providing the **advertisement** with animation,
(G) providing the **advertisement** with video, (H) providing the
advertisement with sound, (1) providing the **advertisement** with sound
effects, (J) providing the **advertisement** with persistence, (K)
providing the **advertisement** in a pop-up window, (L) providing the
advertisement in a way that occludes document content, (1hd) providing
the **advertisement** in a pop under window, Q0 providing the
advertisement with a border, (0) I 0 providing the adveific.@@,ernent
with an enhanced border, (P) providing the **advertisement** at a 1 desired
location on the document, (Q) providing the **advertisement** in a desired
shape, and (R) 2 providing the **advertisement** with programmed
interactivity.

72 Apparatus comprising:
a) an input for accepting
- price information associated with an **advertisement** ,
- performance information associated with an **advertisement** , and
- advertiser information associated with an **advertisement** ; and
b) means for determining whether or not to apply one or more enhanced
features to the **advertisement** using, at least, the accepted price
information, performance information, and advertiser information.

73 The apparatus...

...means for determining whether or not to apply one or more enhanced

features to the **advertisement** includes means for determining at least
one enhanced feature eligibility score using, at least, the...

...means for determining whether or not to apply one or more enhanced
features to the **advertisement** further uses infon-nation about a
document with which the **advertisement** will be served.

75 The apparatus of claim 74 wherein the information about the document

...

...means for determining whether or not to apply one or more enhanced
features to the **advertisement** further uses at least one enhanced
feature eligibility score of at least one other **advertisement** .

77 The, apparatus of claim 73 wherein the means, for determining vihether
or not to apply one or more, enhanced features to the **advertisement**
further uses (i) at least one enhanced feature eligibility score of at
least one other **advertisement** , and (ii) information about a document
with

4 which the **advertisement** will be served.

78 The apparatus of claim 72 wherein the at least one enhanced feature
includes at least one of (A) increasing a size of the **advertisement** ,
(B) increasing a font size of text in the **advertisement** , (C) changing a
font type of text in the **advertisement** , (D) increasing an amount of
text shown in the **advertisement** , (E) providing enhanced color schemes
to the **advertisement** , (F) providing the **advertisement** with animation,
(G) providing the **advertisement** with video, (H) providing the
advertisement with sound, (1) providing the **advertisement** with sound
effects, (J) providing the **advertisement** with persistence, (K)
providing the **advertisement** in a pop-up window, (L) providing the
advertisement in a way that occludes document content, (M) providing the
advertisement in a pop under window, (N) providing the **advertisement**
with a border, (0) 0 providing the **advertisement** with an enhanced
border, (P) providing the **advertisement** at a 1 desired location on the
document, (Q) providing the **advertisement** in a desired shape, and (R) 2
providing the **advertisement** with programmed interactivity.
?
19/3,K/1   (Item 1 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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01564051   **Image available**
SYSTEM AND METHOD FOR OBTAINING REVENUE THROUGH THE DISPLAY OF HYPER-RELEVANT ADVERTISING ON MOVING OBJECTS
SYSTEME ET PROCEDE PERMETTANT DE PROCURER DES REVENUS PAR L'AFFICHAGE DE PUBLICITES D'HYPER PERTINENCE SUR DES OBJETS MOBILES
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English Abstract
  ...owners of those objects are then compensated. The system enables the
  display of hyper-relevant **ad** content with synchronized remote audio,
  personal messaging and public service alerts on surrounding objects and
  ...

  ...content deliveries between objects, track and measure consumer
  engagement, verify consumer's direct responses to **ad** viewings with
  accountability systems.

Detailed Description
... of users for providing or viewing content.

2. Description of Related Art

[0007] In the **ad** business, there are a handful of yet to be realized
holy grails.

They are: (1) Deliver your **ad** to the correct **demographic** (age,
gender, income level, etc.); (2) Deliver it at a time its recipient is
sure...

...not when he's out for a soda or in the bathroom); (3) Pitch your **ad** to
consumers who are truly interested in what you are selling (instead of
wasting advertising...

...a great restaurant at meal time a couple of blocks from the place); (8)
Put **ads** into the distribution pipeline in just seconds using the
Internet; (9) Base billings on the actual content delivered and do it all
electronically and automatically; (10) Give advertisers proof their **ads**

actually ran and track them on a minute to minute basis; (1 1) Provide
feedback to the agency or its clients on consumer engagement; (12) When
your **ad** shows, let viewers buy (or at least get more information) at
the push of a...

...Over the next decade, major money will be set in motion to create
entirely new **ad** platforms and new ways to reach consumers in what today
is a $250 billion industry. In the process, the ways and means of the
contemporary **ad** business are going to be turned inside out, not so much
because of the present...
...the best way to expose products and services to consumers because TV had
traffic. However, **ad** executives are beginning to recognize how much
money is being wasted on antiquated media plans. For the first time in
history, TV Spot **ads** were the biggest loser in **ad** spending for 2005,
sinking 9.5% to $ 15.5 billion, because viewers have 'left the...

...an audience that truly cares about what advertisers have to say and
sell, and those **ad** messages have to be bright, quick, and relevant to
the new audience's current interests...

...on my device." He may be right.

Recent studies have determined that kids like watching **ads** as long as
they represent something they're interested in. Look at the Super Bowl,
where large numbers of viewers tune in primarily to watch the **ads** .
Consumers like these want to participate, want more to talk about, and
want ultimately to...

...for tiny screens on the go. What is required is a systemic rebirth of
the **ad** game including novel applications and pragmatic distribution.
But more than anything, it requires marketers to...
...displays on taxi tops vie with sign-wrapped busses and trailers, bus
shelters plastered with **ads** , lighted store signs, and a profusion of
billboards, many with revolving panels and flashing lights...

...way into signs, surfaces, and products of all kinds. We are already
inundated with visual **ads** : our daily sensory diet includes thousands of
commercial impressions, from pop-ups and animations in...

...that video signs are more distracting than static signs and can act as
catalysts, increasing **ad** gazing of all types, even in unsafe
situations. Similar studies are documenting the effects of...

...instinct; and that changes in color can capture attention. None of this
proves that outdoor **ads** cause accidents, but behavioral mechanisms
clearly come into play when drivers encounter roadside signage. The...

...out-of-home advertising. If outdoor advertisers had instead placed that
$5.5 billion in **ads** using the present invention, they'd not only have
put their money into a superior **ad** platform, they'd have been able to
reimburse drivers for their wasted $3 billion and...

...modern trains, subways, busses and aircraft, moving objects are the
basis for corporate and self **promotion** , personal expression,
identification and advertising. Today, it is not unusual to see cars,
trucks, entire busses, even independently-towed trailers adorned with

wraps or **ads** for products and services—many of these are
backlighted to draw the attention of...

...s clients control the content, not in real time, but well in advance of
street **exposure** . ClearChannel also offers a 14" x 36" flat, bolt-on
trunk mounted sign which is...

...to these as advertising "tonnage" since the car behind will view the
same static, print **ad** for 5 to 20 minutes (the time a vehicle spends
behind it in traffic in...

...of advertising messages in public spaces and represent little more than
a "shotgun" approach to **demographic** targeting. Advertisers using these
techniques can only hope they will get **exposure** in the right part of
town or at the right time of day and to...

...cost of media buys and produces accounting inaccuracies. The present
invention represents not merely an **ad** platform to deliver
hyper-relevant content, but is one which is totally electronic from the
...

...been previously unheard of in the world of contemporary advertising.

[0025] TELEVISION

[0026] Advertisers place **ads** everywhere from skywriting to urinals and
from grocery store check-out dividers to the fruits...

...move. With nearly 200 million U.S.

subscribers to wireless services, marketers are wondering if **ads** beamed
to wireless devices such as cell phones, Blackberries and hybrid devices
will evolve into...

...spots you can see in your living room. And despite declines in
viewership due to **ad** -skipping Digital Video Recorders (DVRs) and media
alternatives such as the Internet, American viewers still...

...delay per traveler per year, which is 2 19,600 seconds a year. In
television **ad** terms that's nearly thirty 30-second commercial spots per
day, and nearly sixty 15...
...8212;some are now household words—whose job it is to measure the
existing **ad** viewer base.

ClearChannel is evaluating Requests for Proposals (RFPs) looking for new
electronic devices to measure its huge radio audiences. Arbitron, a firm
specializing in **ad** measurement, has developed a device called a
portable people meter (PPM), a passive electronic device...

...mobile media. In December 2005, Nielsen Outdoor delivered its first wave
of out-of-home **demographic** data to reveal the most likely people to see
advertising on billboards. Nielsen convinced respondents...

...with a map of outdoor advertising sites to determine who passes what
kinds of outdoor **ads** , and when. Nielsen's data does not provide
demographics on a per user basis for individual outdoor sites; it only

gives advertisers a sense...

...could have been exposed to and roughly how often. The methods for gathering and applying **ad** measurements are woefully lacking in an industry that, in other respects, is mature and widespread.

[0030] Fundamental to **ad** measurement is defining what constitutes an "impression" or a "view." Special software has been created...

...First, the present invention is not inserting commercials into an entertainment stream, it is showing **ads** exclusively. Secondly, since every showing is essentially "requested" by an electronic device on one moving...

...was viewed (based on GPS data), when and by whom it was viewed (in significant **demographic** detail), and for exactly how long. The system also documents whether or not any impulse...

...effectiveness—for example driving to a specific hotel or restaurant immediately after seeing an **ad** for it.

Furthermore, every content request—whether or not it resulted in a confirmed...

...of combining IP-based targeting—a very common technique that allows advertisers to target **ads** based on the location of a user—with, for example, information about the city...

...San Francisco is searching for an address in Austin, Texas, online marketers can target airline **ads** advertising cheap fares from San Francisco to Austin.

[0034] In the same way, the present...

...coupling that information with an owner's stored profile, a wide variety of highly directed **ads** can immediately be triggered for presentation on any of the moving objects it might encounter...

...integrated advertising and distribution infrastructure. When users in moving objects in the field see an **ad** that intrigues them, they can push a button to get immediate information (such as pricing...

...Imagine you're major film studio releasing a big movie for the weekend. You've **budgeted** a substantial **ad** spend to promote the grand opening with significant print and TV spots to generate excitement...

...an electronic discount at a nearby Burger King? The present invention allows exactly such a **promotion** to be executed, both instantly and seamlessly.

[0041] THE NEW CANVAS
[0042] Computer and display...is perhaps the "4th screen": a unique media platform totally dedicated to the display of **ads** . For a truly dedicated platform, however, integration must occur at a variety of levels:

[0056...

...with average consumer lifestyles. The method involves paying drivers to wrap their personal cars in **ads** touting products such as ice cream, juice bars or Internet services. The driver's job...

...operate as a traveling billboard. Some companies offer drivers the free use of a new **ad** -wrapped car, while other drivers are paid $300 to $400 a month to allow the...

...commercialism. As mentioned previously, taxi owners in some major cities are being allowed to place **ads** on the outside of their cabs. Leasing **ad** space in this way provides taxi owners and drivers with additional revenue which helps them...

...it went to the right parties. It has no effective procedures in place for judging **ad** "performance" (other than post analysis assumptions by creatives and the evaluation of sales) to determine...

...effectiveness and acceptance, and the presenters of that content are financially rewarded on a per **ad** , per screen basis for the use of their platforms just as though they were partners...

...profiles in other moving objects. Nor is the applicant aware of any single, closed-loop **ad** platform which allows consumers to request specific kinds of content, to distribute that content, to...

...hyper-relevant advertising on moving objects which receive, store, poll and extract data to present **ads** and other types of information based on the time of day, their location and their...

...with an electronic means for the wireless transmission of stored, encoded user profiles containing the **ad** viewing preferences for the occupants of one moving object, to the receiving system in another moving or fixed object. The system enables the display of hyper-relevant **ad** content with synchronized remote audio, personal messaging and public service alerts on surrounding objects and...

...content deliveries between objects, track and measure consumer engagement, verify consumer's direct responses to **ad** viewings with accountability systems for moving object owner/operator Just Compensation.

The invention further enables the widespread, non-invasive, profile-driven, **ad** hoc collection of privacy-compliant data for research purposes relating to consumer movements, travel patterns...

...exterior finishes and/or glazing with an electronic means for receiving, storing, queuing and displaying **ad** content, and for the wireless transmission of stored audio or audio codes to a viewing...

...mobile advertising and communications platforms and further defines a means to generate revenue from the **ad** hoc collection of hyper-relevant data through the deployment and use of those platforms.

By...or political candidate, as a kind of "electronic bumper sticker".

Another owner might display a **promotion** or an **ad** for his own small

business and do it at precise times of the day or...

...who participate, from the advertisers and agencies who will pay to use
the invention's **ad** platform to the manufacturers of moving objects that
will introduce what will be the equivalent...
...communications and advertising platforms for profit.

[0072] Commercial advertisers will continue to deal with selected **ad**
agencies and will develop creative content in the same ways as they do
today, but...

...and practices defined under the present invention. Content producers
will continue to work with their **ad** agencies, creating end products
appropriate to the selected media, then media buyers will purchase **ad**
slots and schedule content, but it will be done over the Internet.
Submitted content will...

...and technical requirements, and then encoded for time, venue, and
relative priority over other scheduled **ads** or content types.

Once content is encoded, the best method for distribution is determined
(cable...

...types of content. Typically, government or public service content will
have a display priority over **ads** . The triggering of public service
alerts is critical and is sometimes accomplished through external systems
...
...the individual owners or operators of the various moving or stationary
objects that comprise the **ad** platform and were involved in the delivery
of that particular content. The present invention introduces...

...accountability to assure this.

[0077] General consumers will pay for the distribution of their own **ads**
and personal messages, even when such displays are on their own moving
objects, although such...

...the day and in specific locations delivering a certain number of
impressions to a preferred **demographic** . With the present invention,
fees charged will be based on the going rates for the...

...beneficiary; thus, early investment may be from the more entrepreneurial
content producers, media buyers, and **ad** agencies, along with their
large corporate clients, and finally the traditional competing major
media platforms...

...where that data is then received, polled, extracted and used to control
the display of **ad** content or other types of information on the surfaces
of such other objects.
[0089] It...

...being.

[0098] It is another object of the present invention to allow advertisers
to submit **ad** content together with delivery information for approval
and subsequent distribution to moving objects.

[0099] It...

...that information by being able to control what they see and hear with
respect to **ad** content that is presented to them.

[00103] It is another object of the present invention...

...deliveries (such as for time and place, under specific conditions and
circumstances or to specific **demographics**) and to enable contracts with
clients, customers and entities who wish to pay for such...

...another object of the present invention to enable the wireless,
automated downloading of encoded commercial **ad** content, together with
encoded delivery information, to the on-board storage devices of moving
objects...

...to spontaneously request additional information, to purchase merchandise
or otherwise respond to electronic offers and **advertisements** as they
view such content from or while operating moving objects.

[001 14] It is...object of the present invention to upload user codes
which have been transmitted on an **ad** hoc basis between moving objects
in the field for the purpose of tracking consumer movements by VIN,
demographics , time, place, interests and other factors, for the purpose
of research, marketing and planning.

[00127...

...user codes and information relating to the movements of consumers in the
field by VIN, **demographics** , time, place, interests and other factors
for the purpose of research, marketing and planning.

[00128] It is another object of the present invention to convert the **ad**
industry's enthusiasm and its need for unique advertising platforms into
capital investment in said...
...are explained later.

Content 150 represents conventional, targeted and/or hyper-relevant audio
and video **ad** content, public service content, personal content and
encoded personal profiles from fleet or government users...

...Pre Existing Vehicles 655 are able to wirelessly transmit VIN, model
data, content requests and **ad** control signals 750 to New Production
Vehicles 652, 654, and then receive audio and view...

...requests for content deliveries (viewings) in an effort to demonstrate
greater interest in a specific **ad** or site than really exists. In the
case of the present invention, this could be attempted by individuals to
get paid for presenting **ads** that were not actually viewed. At this
stage, an exchange of data 170 between the...

...vehicles having aftermarket installations 655. The Distribution unit 800
can then feed back in-field **performance measurements** to the general
user body as indicated at 180.

The Compensation unit 900 has, among...
...compensation to Registered Platform Owner/Operators 1000, as shown at
178; and the sale of **ad** hoc collected data to marketers and
researchers, as indicated at 1100.

[00190] FIG. 2 shows...similarly downloaded to Compensation 900 for
processing and confirmation. At 182, confirmed public use content
exposure is returned to Distribution where it can then be translated
into effective measurement information regarding...

...defined collectively as three elements: the media buyers 305 (entities
responsible for purchasing and scheduling **ads** in various media), the
advertising agencies and their clients 3 10, and the content producers 3
15 (entities typically hired by the **ad** agencies to create, produce and
execute products for media placements). The applicant envisions these
groups...

...attention and establishing criteria for such displays); Content
Standards & Formats (limitations on certain kinds of **ad** content
relative to specific **demographics** , or the manner in which certain
presentations can be made and to whom); Telematics Standards...

...to each other); Proximity & Venue Regulations (determining times and
locations in which certain kinds of **ads** might not be permitted, or
might be limited in scope or content); methods and schemes for
Demographic Encoding (classifying the various types of products and **ads**
so they can be matched to consumer request profiles and properly tracked
for measurement, accountability...

...a significant user and beneficiary. As noted hereinabove, there is a
serious need for improved **ad** accountability, **demographic**
effectiveness and tracking of engagement, and there is no question that
advertisers and large media...

...Vehicles, while path 164 shows the upload path for Logged Advertising
Requests and Logged Advertising **Exposure** from New Vehicle Production.
As it was with Confirmed Public Service Use, path 173 indicates Confirmed
Ad Distributions sent back to the Distribution unit for **ad**
performance assessment, engagement tracking, measurement, accountability,
fraud **exposure** and compensation. Once data is processed by the
Distribution unit 800, it can provide performance feedback 183 to Media
Buyers, **Ad** Agencies or Advertisers in a variety of formats, including
data on the direct daily deliveries to specified **demographics** with the
exact times, places and durations for such impressions, along with
consumer views and...
...contracts with the Distribution entity 800 to display their own
company's advertising, branding or **promotions** . The applicant
anticipates that a number of individually operated advertising and
promotion businesses may spin off from such commercial platforms wherein
small business owners might purchase dual-purpose vehicles with the
intent of operating a fleet of mobile **ad** platforms around the clock in
key markets, to train and manage drivers for such an...

...data in terms of consumer movements by time, venue and VIN, all relative
to their **demographic** and **psychographic** profiles. This kind of
information can be easily generated through the interaction of moving

objects...

...these moving objects are linked to a network.

] This level of verifiable information on consumer **demographics**, **psychographics** and interests, when coupled with their movements and travels, can be of extraordinary value to...

...indicated at 1100 in FIG. 1. The downloading of special instructions for the collection of **ad** hoc research and planning data based on independently contracted or measured studies is shown at 1120 in FIG. 4. The uploading of such **ad** hoc collected in-field data is shown at 1140.

[00203] Logged Personal Use Authorizations (request...

...are uploaded from all vehicles at 167 to the Compensation unit 900. Logged Personal Use **Exposure** (data confirming the presentation of personal content to a viewing vehicle) is uploaded at 168...

...via Network Access Points (NAPs) in the same manner as logged Advertising or Public Service **Exposure** is uploaded from moving objects. Such logged **exposure** is sent to Distribution 800, where it is matched with Personal and Fleet/Government Use...

...originally uploaded content), then the Compensation unit authorizes the fees charged for such Personal Use **Exposure** to be either billed to the Registered Owner 1000 or subtracted from any Compensation that...

...a consumer might make in engaging with the business of viewing and displaying hyper-relevant **ads** and personal communications. Two parallel engagement paths are shown, reflecting a preferred embodiment including a
...
...family members are allowed, in the privacy of their own home, to select their individual **ad** viewing preferences. Here, each member of the family (or the authorized users in a business...

...can be updated and submitted periodically from nearly any location having network access. Also, because **ad** preferences can be highly personal in nature—and because they directly influence the kinds...

...subject matter which he prefers remaining confidential, when he completes this portion of his Personal **Ad** Viewing Preferences, he can limit such content requests, for example, to only the times he...

...no personal interest, or if he finds it offensive or objectionable, he can prevent its **exposure** to himself and to others who may be with him or are in the immediate...

...based moving object, when kids are traveling in their parents' vehicle, parents can prevent certain **ads** or content which they feel are inappropriate from being displayed on moving or fixed objects around them. When the kids are no longer in the vehicle, those **ads** can be switched back on or allowed.
[00213] At 445, the Registered Owner of a...

...vehicle, or whether the party responsible for the vehicle wishes to

allow or to prevent **ads** from being viewed by any other specific party. Research reveals that kids today truly enjoy...

...interested in. So if kids are misbehaving, parents might just threaten to shut off their **ad** viewing preferences for the rest of the way home.

[00214] A wide variety of **ad** viewing features are expected to be implemented by the individual manufacturers of moving objects under...

...moving or stationary objects in the vicinity, thereby controlling the variety and nature of the **ads** polled and selected for presentation by such other objects. Based on each vehicle manufacturer's...

...land-based vehicle), an owner has purchased or leased a New Production Vehicle with the **ad** display technology built in. As we saw in the family scenario, the dealership has pre...

...encoding, because these are straightforward processes well known to those skilled in the fields of **demographic** and **psychographic** analysis and in the arts of interpreting the subjective elements that comprise human interest and...

...432); Assignment of Family/User Names to Preference Selector (436); Family Member Selection of Personal **Ad** Viewing Preferences (442), and Registered Owner Determines Viewing Protocols (444), are essentially the same as...will be performed at the media buy level.

In other words, there is a media **exposure** hierarchy which determines the value of a given **ad** 's impressions based on the platform's ability to reach specific audiences at specific times...

...individuals or small companies that could register large numbers of moving objects primarily to circulate **ads** within the high value target markets such as the downtown areas densely populated cities. Should...

...content deliveries are essentially automated and represent sophisticated media buys (sensitive to content type, viewer **demographics** , locations, delivery times, etc.), and because most consumers will always want to optimize the revenue...

...promote or display. In so doing, that owner also forgoes revenue from those precluded display **ad** opportunities. Examples might include individuals who wish to boycott certain products or companies. Another might...

...Therein lies another responsibility for Distribution, and an inherent feature of the present invention: political **promotions** in and around polling places can be electronically monitored and prevented. The reverse is also...

...of their assets: selecting their Personal Use Preferences for their own moving objects. Because personal **ad** placement decisions also bear on the VIN's overall ability to generate income, only the...

...452, family members (or small businesses) are allowed to create and submit their own personal **ad** content for display on their own or on

other moving objects. Such content can range from simple neighborhood business **ads** to very spontaneous **advertisements** applied to vehicles on the spur of the moment, such as displaying a High School...

...internal hard drive, based on a received code. There are many such examples of personal **ads**, sponsorships or messaging: a political candidate might email you an animated electronic bumper sticker from...
...out certain graphic content that may be commonly viewed as offensive in terms of public **exposure**, or beyond the bounds of reasonable free speech. Such content is submitted by the Registered Owner online and once screened, can be **scheduled** for **automated** release, or can be stored on the VIN's hard drive for spontaneous or manual...

...display of Personal content will be accompanied by a standard fee for the level of **exposure** anticipated (based on the time, place and market for that impression) less any discounts, and...

...discounted and debited against the Registered Owner's monthly income check. The broadcast of Personal **Ad** Content to other moving objects, however, would constitute a media buy. Such purchases are scheduled...

...basis, the present invention is able to take hyper-targeted or hyper-relevant marketing and **promotion** to entirely new levels of performance.

[00226] FIG. 6 illustrates a first embodiment of a...

...vehicle's exterior finish allowing complete emphasis to be placed on the logo (the current **ad** content) as it is presented in this example. The moment this vehicle begins to slow...

...Of importance in the present invention is that during any speed or maneuvering changes the **ad** content slate is gently wiped clean so as to be totally non-distractive. At this...

...off the objects moving in their paths as they must do today when viewing roadside **advertisements** and signage. In practice, the graphic surface character of a moving object may simply dissolve...

...vehicle advertising—and even without the commanding visual performance or the extraordinary flexibility of **demographic** and proximity hyper-relevant targeting—the present invention could completely pay for itself in...

...vehicles and the electronic distribution, measurement, engagement tracking and the later downloading of mass-market, **ad** hoc collected information together with owner/operator compensation.

[00240] FIG. 17 is a block diagram...

...previously established marketing criteria which in turn permits the selection and queuing of hyper-relevant **ads**, public service, or personal content from hard drive 7 16 . If signal 744 contains digital...
Content Distribution 150; Public Service Content (road/weather hazard alerts, upgrades, etc.) 152; hyper-relevant **ad** Content 153; Driving Population Personal and Fleet/Government Public Service Content 154; and

special programming instructions for **ad** hoc communications between vehicles 156. Antenna 7 15 enables the uploading of data and information

...

...hard drive 7 16 . Such information includes, but is not limited to: all Logged Content **Exposure** 160; Logged Public Service **Exposure** 162; Logged Advertising Requests from specific VINs 163; and Logged Advertising **Exposure** 164. Antenna 7 15 also enables the uploading of **ad** hoc research collected and stored on moving objects' hard drives (or on board memories) while...

...have it sent from his mom's car to his pals. If mom spots an **ad** for a new book, or even a new blouse, she can buy those items at...

...area.

[00257] Thus far, we've learned that people don't really object to viewing **ads** about subject matter they are interested in. We've learned that kids embrace advertising when...

...they are and what they want, pedestrians can have the same kinds of hyper-relevant **ads** and other types of information presented to them on the exterior of nearby vehicles. If...

...paid based upon the number of impressions they deliver relative to the value of the **demographic** and the market served. As full scale production emerges, increasing numbers of vehicles equipped with...

...the advertising displayed on them will remain relatively generic, more often targeted to specific locations, **demographic** groups, or times of day, rather than to the specific interests of participating individuals. With...

...Content Preferences 155; the downloading of Public Service Content (road/weather hazard alerts, etc.) 152; **Ad** Content downloads 153; and any special software or instructions 156 relating to the **ad** hoc collection of data (normally vehicle-to-vehicle) for widespread monitoring and measurements. All downloaded...

...by venue and time 163; Logged Personal Use Authorizations (including any view blocking or personal **ads**) 167; and Logged Personal Use Exposures or impressions 168 by VIN, venue, and times.

[00269...

...where Owner/Operator Profiles (which define user interests, wants, needs, and experiences together with their **demographic** and **psychographic** data, provided in non-identifiable formats which include no personal information) are approved and encoded...

...the time of delivery; this step is shown at 820 for Public Service and commercial **Ad** content and at 844 for the Driving Population and Fleet/Government use. Time encoding determines...the middle of the day or middle of the night and varies due to the **demographics** and viewership at those times. There is no hard value for delivering a marketing message

...

...by computer with the corresponding delivering (viewed) moving object. Such data could further correlate the **demographics** and interests of drivers and participating passengers traveling on various roadways at various times of...

...from a multiplicity of moving objects participating in the widespread collection of data on an **ad** hoc basis.

[00283] FIG. 19 is a block diagram depicting the Compensation model of the...

...drives of Pre-Existing Vehicles 680. Such downloads would also include composite data from the **ad** hoc collection of user codes communicated between authorized or programmed moving or fixed objects, indicated...

...Personal Use Authorizations from non-display vehicles) depicted here at 165, and all Logged Content **Exposure** (including completed or partially completed content deliveries) depicted here at 160. Within each of these ...

...163; Logged Personal Use Authorizations from specific VIN numbers (including any view blocking or personal **ads**) 167; and for Logged Content **Exposure** 160, there are Logged Public Service **Exposure** 162; Logged Advertising **Exposure** 164; and Logged Personal Use **Exposure** or impressions by specific VIN, venue and times 168.

[00286] This information is next computer...

...with all documented Advertising Exposures 164, thereby confirming both an in-field request and an **exposure** (an actual delivery) between these specific VINs, also verifiable by time and place. This comparative...

...of all data is indicated in FIG 9 at 170. At the same time, Confirmed **Ad** exposures vs. distributions are indicated at 173; confirmed Personal and Fleet/Government exposures vs. distributions...

...fraud" is a term given to a method of generating clicks (or apparent requests) for **ads** on the Internet in an effort falsely tally online "hits" and thereby show interest in...

...key word selections in search formats —in order to receive greater payments for those **ads** by reflecting increased apparent value, where, in fact, those **ads** have not actually been viewed at all. The present invention could be vulnerable to such...

...which are monitored and protected under alternative criteria) is likely to result in the actual **exposure** of content to the persons involved anyway. A further barrier against fraudulent claims of content...

...such as automakers, banks, petroleum companies, insurance companies, and others. Any of these might offer **promotions** with incentives for the use of this unique advertising platform and these could eventually take...

...might offer free gas plus a premium for buying their brand instead of simply receiving **ad** dollars from the entity. This kind of co-compensation might apply to automotive insurance, credit...

...upon, a hazardous area often defined by GPS coordinates.

[00301] At 1120, a typical Proximity **advertisement** is shown. A consumer in a following vehicle might request such proximity content be displayed

...

...with current prices.

[00302] The present invention uses existing onboard GPS Navigational systems to deliver **ads** at precise locations determined by the advertiser or by the media buying agencies. By coupling...

...entire section of a city, or a length of rural highway), advertisers can target specific **demographic** groups by area and can call attention to specific products or services while drivers or...
...in the world of marketing. In practice, the desired GPS coordinates are coupled with the **ad** content at the time of upload. When a vehicle's GPS system later indicates travel within those specific boundaries, then those **ads** are either queued or are given priority over other content.

[00303] At 1140 is an...

...be generated by consumers or professionals and can be uploaded by users themselves. If personal **ads** are placed on other vehicles, they will pay the going media rate for the anticipated...from the lot into the mall. Proximity sensors on board each vehicle could activate such **ads** as pedestrians approached and passed behind them. These displays can also easily be targeted by...

...fees for such areas and their relative priorities are established by the anticipated level of **exposure** — typically based on the number of targeted impressions they can deliver at any given...

...left side, from top to bottom, are the headings of Content, Time Encoding, Venue Encoding, **Exposure** priority, and Fee range. Together, these represent the kinds of media buys described in FIG...
...the Convention Center which includes all of the approach routes to entry and parking. The **Exposure** Priority assigned for Apple's sponsorship (the preference with which Apple's **promotion** is given over other types of content) is shown at 1365 as Level 2, with...

...which lets him manually override his own schedule to present his own or other personal **ads** whenever he chooses. Also, because his business operates in a localized area and involves such...

...advertising, but as soon as he re-enters his home neighborhood, his Personal or Business **ads** will queue up and promote his local enterprise. At 1375, we see this has resulted in the lowest **Exposure** Priority for his own content, allowing him to first optimize income producing content. His fees...

...will therefore be among the lowest available, and will simply be deducted from his monthly **ad** revenue, as indicated at 1395.

[00313] In the last column, Emergency, we see at 1320...

...141 6, has his normal personal profile active. The disinterested driver

has all of his **ad** viewing preferences shut off, as indicated at 141 8.
So, when driving north on Main...

...00317] From 1st Street to 2nd Street, mom in her SUV will see family
oriented **ads** derived from her own interests, mixed with the interests
of her children (since their profiles...

...so adjusted), as shown at 1422. At 1424, the business visitor in town
will see **ads** and content based his own WIA/WIW profile interests,
except that any proximity-based interests...

...traffic safety. As vehicles near the intersection, this alert overrides
even Apple's high cost **promotion** and the disinterested driver's
preferences at 1448 to not view commercial content.

Apple's **exposure** during this hour will drop to approximately 70% of the
driving time between these parallel...

...1456 will see, presented on the objects before and/or around them, both
the Apple **promotion** and Hilton Hotel's proximity **ads** . Apple's logos
will be seen approximately 70% of the time between 4th and 5th along Main
Street, and Hilton's **ad** will be seen about 30% of the time, due to
Apple's premium fee paid...
...levels of paid content: Apple at 70% (due to the premium fee), Hilton
Hotel's **ads** at 20% of the linear block, and McDonald's at 10% of the
linear block...

...car driver at 1484, and our daily commuter at 1486 will all continue to
view **ads** based on their previously scheduled proximity media buys and
their content delivery instructions. The result...

...object, as indicated at 1505. Once received, an initial question is
asked at 1510: Are **ads** rejected? If the answer is YES, no **ads** are
queued, as indicated at 151 5, and subsequently, at 1520, the declined
ad viewing instruction is logged on the hard drives of both the
requesting (transmitting) and the...

...data delivery is uploaded to the network along with information on VIN,
time, place, and **demographics** via transceiver 714.

[00324] If, at 15 10, the answer is NO, then the preferences...

...This is generally interpreted by the amount of content exposed to the
viewer. If minimal **exposure** was met at 1582, then this will be logged
as a percentage delivery at 1590. If minimal **exposure** was not met, then
shorter content of a similar type can be queued (as indicated...lanes
beginning with the signal's light change from amber to red. Through this
instant, **ad** hoc exchange of information at any populated intersection,
all properly equipped vehicles can distribute current...

...what is being displayed on the rear-facing surfaces of Vehicle A.
Vehicle D's **exposure** is blocked by vehicle B, as shown by dimension
1740. If Vehicle B were not...

...that possesses signal sequence codes regarding the location, it is able
to broadcast, on an **ad** hoc basis (from one vehicle to another), the

traffic light timing sequence it has logged...

...friends. It came in two models, one basic, the other with Lexus' new on-board **ad** display system, something the company called an " **ad** /hybrid." Other than this, the models were identical. With financing, the slight increase in cost for the **ad** /hybrid was barely noticeable in the monthly payment, but the window sticker made it clear...

...produce handsome annual revenue for its owner, significantly offsetting the costs of its built-in **ad** display technology. On the sticker, this revenue had been translated in terms of the car...
...average fuel performance had been estimated. Dad signed the papers, the dealer pre-registered the **ad** /hybrid's VIN and dad headed for home.

[00352] The kids were all over the...

...drove up the drive. Right away, his 8-year old daughter wanted to place picture **ads** for her after-school dog walking business. His 14-year old son was ready to...

...and color, greeted dad with his own user name and welcomed him to the Lexus **ad** network. Minutes later, behind another vehicle on the freeway on ramp, he viewed a 30-second spot for his favorite ball club, a **promotion** for ABC's Monday Night Football, and was offered 50% off for his birthday at...

...company's parking garage, unaware that antennas overhead were already uploading the morning's recorded **ad** deliveries and downloading to his hard drive the latest content released to the Internet just...

...SGMA) Show, where Nike was a major sponsor. Smart of them to buy the local **ad** space, he thought to himself. A few blocks past the convention center, the Nike sponsorships...
...from trucks and commercial vehicles seen on the streets in past decades.

Dad squeezed the **ad** pad on his steering wheel and the small display in his instrument cluster revealed the...

...00358] When dad arrived home he found that his daughter had finished a little graphic **ad** for her dog walking service. How could he refuse to let her upload it to...

...home network.

[00359] As dad drove to work the next morning, he was barraged by **ads** for snowboards, video games, a radical new soda, and previews for kid's TV shows...

...made sure that each family member had their own password and he proclaimed himself the **ad** /hybrid's official system administrator.

[00360] On Saturday, mom borrowed the Lexus to accompany two...

...roadwork and a closed road on her usual route to the Mondhan. Thanks to the **ad** /hybrid's to warn her of a traffic blockage in real

time, she and her...

...the beginning of the show. Driving home alone, and now curious, mom switched on the **ad** /hybrid's system. Two blocks from the Hotel, a black Escalade lit up in front...

...to a Borders Bookstore Grand Opening. That evening, she relented and completed her own online **ad** /hybrid profile so she too could receive hyper-relevant **ads** .

[00361] A month passed and mom's Visa Statement arrived. To her surprise, it showed a $48.70 credit under a Citibank **promotion** , just because she had watched a few **ads** ! That evening, she mentioned her little windfall to her husband. Dad went to his home...

...from Lexus in the amount of $849.60, just because he had displayed a few **ads** .

[00362] Those skilled in the art will appreciate that the exemplary embodiments described herein can...
...e.g., Ethernet, wire cable, optical fiber, and the like) and wireless (e.g., radio **frequency** , infrared, light modulation, and the like) interfaces. Systems, devices and components can be implemented using...

19/3,K/2   (Item 2 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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01539600   **Image available**
SYSTEMS, METHODS AND COMPUTER READABLE CODE FOR VISUALIZING AND MANAGING
      DIGITAL CASH
SYSTEMES, PROCEDES ET CODE LISIBLE INFORMATIQUEMENT POUR LA VISUALISATION
      ET LA GESTION D'ARGENT ELECTRONIQUE
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Patent and Priority Information (Country, Number, Date):
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  KP KR KZ LA LC LK LR LS LT LU LV LY MA MD MG MK MN MW MX MY MZ NA NG NI
  NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SK SL SM SV SY TJ TM TN TR TT

TZ UA UG US UZ VC VN ZA ZM ZW
(EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LT LU LV MC NL
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IPC + Level Value Position Status Version Action Source Office:
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Fulltext Availability:
  Detailed Description

Detailed Description
... activates an interface (i e dialogue 558) for specifying attributes of
the cash bundle to **create** . According to the exemplary **scenario** , the
user specifies a value of $350 and expiry in 30 days Step 3a (Figure...
digital cash bundle with attributes set to those specified in the
template and debits the **electronic** wallet 1,500. **Outlook** receives the
cash bundle and sends the received cash bundle as an attachment to the...

...the password: in this manner, a mechanism for enforcing a limit on the
number or **frequency** of attempts to decrypt the digital cash bundle is
provided, thereby hindering brute force attacks...

...a higher computational load on the digital cash clearinghouse Figures
22A-22B describe exemplary use **scenarios** where a user may **create** a
password-protected digital cash bundle and how a recipient user redeems
that bundle: Step...

...open and redeem a digital cash bundle displayed on the web site.
According to this **scenario** , the Internet site would **create** the cash
bundle as a Repeat digital cash bundle redeemable by each user only once
...

...according to how much money the Internet site is prepared to invest in
that marketing **promotion** . When the maximum number of visitors has
redeemed the cash bundle, the **promotion** automatically ends and further
visitors may receive an en or message explaining that this cash...
business wishes to draw people to their physical premises (perhaps by
running a limited time **promotion**). Thus, according to this example,
the business may physically distribute non-volatile memory to potential
...

 19/3,K/3   (Item 3 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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01435247
CONSISTENT SET OF INTERFACES DERIVED FROM A BUSINESS OBJECT MODEL
ENSEMBLE D'INTERFACES COHERENT DERIVE D'UN MODELE D'OBJETS
COMMERCIAUX

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Priority Application: US 2005656598 20050225; WO 2005US19961 20050603; US 2005145464 20050603; WO 2005US21481 20050617; US 2005155368 20050617; WO 2005US22137 20050624; US 2005166065 20050624; US 2005729480 20051021

Detailed Description
... infirrnation package containing information characterizing a
transmission of an object contained in the message.

An **electronic** message confirming receipt of a request to change,
create, or delete items in a catalogue...

...electronic message to request institutions to carry out one or more
payment transactions can be **generated** by a first application that
executes in a landscape of computer systems providing message-based...

...can further contain a credit risk class entity, a credit limit entity
and a credit **exposure** entity. The credit risk class entity can
characterize a risk of non-payment by a...

...The credit limit entity can characterize a credit limit for a debtor
party. The credit **exposure** entity can characterize a level of a credit
limit that has been consumed.
An electronic...electronic message in a landscape of computer systems.

providing message-based services and initiating a **generation** of a
request queiying a buyer * to procure products or services. The received
message includes...

...services. Transmission of the message to a second application can be
initiated in order to **generate** purchasing contract information.

The message can include a purchasing contract package. The purchasing
contract package...

...characterizing references to business documents relevant to an item in a
purchasing contract release.

An **electronic** message to generate replenishment order information can be generated by a first application that executes...

...to a second application can be initiated in order to generate replenishment order infomrntion.

The **electronic** message can include a replenishment order package containing a replenishment order entity characterizing a rep...package can further contain one or more of a business transaction document reference package, a **promotion** package containing information characterizing marketing **promotions** relevant to goods associated with a purchase order, and a schedule line package. The business...from a business object model. Details regarding the creation of the business object model, the **generation** of an interface from the business object model, and the use of an interface **generated** from the business object model are provided below.

Fig. 5 depicts two exemplary data processing...and XF. AB refers to Communications number assigned by Societe Internationale de Telecommunications Aeronautiques (SITA). **AD** refers to the AT&T mailbox identifier. AF refers to the switched telecommunications network of... described in the UN/EDifACT code list 8273 "Dangerous goods regulations code." These include ADR, **ADS** , ADT, ADU, AGS, ANR, ARD, CFR, COM, GVE, GVS, ICA, (MD, RGE, RID, UI, and...

...goods are put away.

Availability Date/time at which something is AvailabilityDateTime

- date/time available.

Advertisement Date/time at which something is **AdvertisementDateTime** date/time advertised.

ChangeDateTime Change date/time Date/time at which something is changed.

CreationDateTime...S identification of the business partner described by the role (e.g., BuyerlD, SellerID). A **promotion** can have different objectives, e.g., to generate awareness of a new product, selectively increase...

...brand, retain loyal customers, or fight competition, with various characteristics, e.g., price reductions, retail **promotion** , and promotional rebates.

GDT PromotionID 19800 is used in connection with cooperative business processes, in...

...Vendor Managed Inventory (VMI) and Collaborative Planning, Forecasting nd Replenishment (CPFR) to clearly identify a **promotion** between the business partners involved. Initially, one business partner, such as a retail company or a consumer goods iuanufacturer. informs the other partner of his identification of the **promotion** with a Promotionif). This identification can then be used as a reference in the downtream...

01413877   **Image available**
ENHANCED ONLINE ADVERTISING SYSTEM
SYSTEME AMELIORE DE PUBLICITE EN LIGNE
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  EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KM KN KP KZ LC
  LK LR LS LT LU LV LY MA MD MG MK MN MW MX MZ NA NG NI NO NZ OM PG PH PL
  PT RO SC SD SE SG SK SL SM SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA
  ZM ZW
  (EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LT LU LV MC NL
  PL PT RO SE SI SK TR
  (OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
  (AP) BW GH GM KE LS MW MZ NA SD SL SZ TZ UG ZM ZW
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International Patent Class (v8 + Attributes)
IPC + Level Value Position Status Version Action Source Office:
  G06Q-0030/00 ...
Fulltext Availability:
  Detailed Description
  Claims

Detailed Description
... good keywords is essential for making the ads relevant to the end
users.

A single **ad** for one product might require dozens of triggering keyword

phrases.

A typical small advertiser might have dozens of **ads** and hundreds of keyword phrases, and medium and large-sized advertisers could have tens or...

...advertiser to think of all the different phrases that should trigger the display of an **ad** . For example, a single **ad** for "Apple iPod" might require the following keyword phrases: "Apple iPod", "iPod", "mp3 player", "Apple...

...Typically, a sophisticated advertiser will measure the rate at which people who click on an **ad** triggered by a given keyword phrase go on to make a purchase-the so-called...

...of one of its products, and suppose that 10% of users who click on an **ad** triggered by a given keyword phrase actually go on to make a purchase. In this...

...keyword phrases, track conversion rates on them, and adjust the maximum CPCs accordingly. The advertisers' **ads** , products, prices, and Web site-all of which affect conversion rates-are constantly changing, and...

...currently use unsophisticated search engine marketing (SEM) tactics.

The Use of Click Rate for Judging **Ad** Relevance. A number of **ad** networks, including Google, use the rate of clicks on an **ad** as a partial measure of the **ad** 's relevance to users. While this has worked well when the **ads** were shown mostly on a few search engines, it doesn't work nearly as well when the **ads** are shown on thousands of Web sites, and it doesn't work well with behavioral targeting.

Some conventional **ad** networks choose which **ads** to show on a page, by first finding **ads** whose keywords match the text on the page. Then the network ranks those matching **ads** , by estimating the effective revenue per impression it would get from each **ad** if it were to be shown on that page, and then picks the **ads** with the highest revenue per impression, referred to as either "effective CPM" or ECPM.

Google estimates the effective revenue per impression using the click rate of the **ad** and the bid price of the **ad** 's keywords: ECPM click rate of the **ad** * bid price per click for the **ad** keywords "Click rate" is defined as clicks per impression, and "bid price per click" is...

...thus: ECPM = dollars / impression = clicks / impression * dollars I click To measure click rate, such an **ad** network may run thousands of initial test impressions of an **ad** to get an accurate measure of a click rates (which are typically on the order of 0.1 to 1% for non-search **ads**). While the use of test impressions may work adequately on a single search engine, such...

...network of thousands of publishers, or when applied to behavioral targeting.

The click rate for **ads** often varies considerably from one publisher's site to the next, from one section of...

...user segments inferred by behavioral targeting.

is It would therefore be advantageous to provide an **ad** network that
could measure an **ad** 's click rate separately for each of the thousands
of likely combinations of publishers, sections within sites, pages within
sections, and user segments, wherein such an **ad** network could optimize
the ranking of **ads** for each different combination of **ad**, page, and
user segment.

However, in practice, getting a separate measurement of click rate for...

...segments of users and there may be hundreds to tens of thousands of
reasonably likely **ads** for that page, so millions of test impressions of
that page would be required just...

...too much, since such a system would be sacrificing significant revenue
by running too many **ads** that generate too few clicks. And on smaller
Web sites with fewer visitors, there simply aren't enough impressions
available.

Thus, when estimating ECPM to select **ads**, conventional **ad** networks
are limited to using the average click rate of **ads** over the entire
network or large subsets of the network, rather than for each combination
...

...vary greatly across combinations, the use of average click rate yields
an inferior selection of **ads** for any given page and user.

As a consequence of their reliance on average click rates, conventional
ad networks will find it difficult to introduce behavioral targeting.
Such conventional **ad** networks also find it difficult to accommodate
advertisers with very large numbers of **ads**, since each **ad** consumes
test impressions in order to measure their click rates.

Features for Judging Relevance. Current advertising technologies are
quite limited in how they match **ads** with Web pages and users. There are
four main approaches: Matching the **demographics** of the buyers with that
of the audience. For example, an advertiser of video games may preferably
run its **ads** on sites whose audiences have a disproportionate number of
18-25 year-old males. Sometimes...

...like comScore, is but often it is intuitive. For example, movie
advertisers typically run their **ads** in the entertainment section of a
Web site.
Matching the text of the **ad** 's keywords with the text of the user's
search query or the Web page...

...example, an advertiser of Apple iPods will likely have purchased the
keyword "iPod", and its **ad** will run on pages that contain the keyword
"iPod" and on search results for user queries containing "iPod".

Observed click rates. As discussed above, conventional **ad** networks
typically observe the actual click rate on an **ad** to judge its
relevance.

Observed past behavior of users. With behavioral targeting, the past

behavior of an individual user is used to predict to which **ads** a user is likely to respond.

For example, a user who has visited auto-buying sites frequently in the past month may be more likely to respond to **ads** for auto loans.

Any one **ad** network typically uses just one or two of these approaches. Large CPM brand advertisers still rely primarily on matching **demographics** . For example, Advertising.com relies primarily on observed click rates. Tacoda, Revenue Science, and Claria...
...with keywords purchased by the advertiser and on click rate.

In contrast to such conventional **ad** networks, current state-of-the-art consumer search engines typically use dozens of features to...

...more such variables for judging relevance, as compared to the handful of variables used by **ad** technology. As a result, the results yielded by such search engines are often significantly more relevant than that of the accompanying text **ads** .

Is While the disclosed prior art systems and methodologies provide placement of **ads** within web sites based on a variety of pricing methods, the **ads** often have limited relevance to customers, and require significant effort and expertise from advertisers, thereby minimizing the value of the **ads** to advertisers, publishers, customers and the **ad** network.

It would be advantageous to provide a network **ad** network that combines state-of-the-art search technology with a radically different pricing model, wherein **ads** are much more relevant to consumers, much simpler and more effective for advertisers, and thus...
...and advertiser content, past user behavior, profile information of users, past rates of performance of **ads** , time of day and day of week, and/or many other factors to determine relevance of **ads** to be displayed with publisher content, wherein the relevance is based on a prediction of

...

...by the user. Furthermore, it would be advantageous to select one or more of the **ads** for display with the publisher content based on such a prediction. The development of such...

...and branding impression. A search component integrates contextual, search and behavioral relevance features to optimize **ad** selection for advertisers. An advertiser campaign associated with an advertiser entity typically comprises one or more **advertisements** , such as desired to be placed at one or more other locations across a network...

...and an advertiser's web site associated with a click of one of the placed **advertisements** by the customer user. Through the advertiser interface, an advertiser enters objectives, i.e. desired...

...e.g. a customer purchase or signup, that results from customer selection of a placed **ad** , customer navigation to the web site through the landing page, and a resultant action desired...

...g. price or commission percentage for each of the entered objectives,

and one or more **advertisements**, i.e. **ad** creatives. The system automatically analyzes, i.e. configures, the assets associated with the entered advertiser campaign, including the web site and the **advertisements** .

A publisher entity comprises a publisher web site having one or more publisher web pages, which also comprises one or more **ad** spaces. When the enhanced online advertising system receives **ad** request from a publisher associated with placement on a publisher web page, the system retrieves...

...limited to target audience, geographic location, link count, past aggregate click and action rates on **ads** , time of day and day of week, etc. When a user views a web page, an **ad** request is generated, which is matched to results of the analysis associated with the page...

...matched to a profile that represents the user's past behavior, and one or more **advertisements** are selected, based upon a predicted response of the user. The selected **ads** are also preferably ranked, such as by ECPM, where: ECPM = ((Average Cost per Action CPA) x (Number of Actions) x 1000)! (N umber of Impressions Servd) [0 The top ranked **ads** are then returned to the user, i.e. displayed, based upon the available **ad** space. The enhanced online advertising system provides search technology-based relevance, and integrates search, contextual...

...keyword and/or category "hints" may be utilized if available, they are not required. An **ad** having a higher rank gets more play, so an advertiser may increase the rank of a desired **advertisement** , by increasing the bid price and/or improving the quality of the **ad** .

BRIEF DESCRIP TION OF THE DRAWINGS

Figure 1 is a schematic view of graphic display **ads** on a web page; Figure 2 is a schematic view of search-engine **ads** on a search engine web page; Figure 3 is a schematic view of contextual text **ads** on a web page: Figure 4 is a top-level schematic view of a conventional...

...enhanced online advertising system; Figure 13 is a schematic diagram of an input of an **ad** request in an enhanced online advertising system; Figure 14 is a schematic diagram of contextual analysis of a web page associated with an **ad** request; Figure 15 is a schematic diagram of site analysis and integration of secondary data associated with an **ad** request; Figure 16 is a schematic diagram of completion and storage of publisher analysis associated with an **ad** request; Figure 17 is a schematic diagram of a file for a catalog of product assets and associated information; Figure 18 is a process flow diagram for the input, analysis, **ad** generation and **ad** serving for catalog assets in an enhanced online advertising system; Figure 19 is a process...

...in an enhanced online advertising system; Figure 20 is a schematic diagram of an automated **ad** request associated with user activity in an enhanced online advertising system; Figure 21 is a schematic diagram of a match between automated **ad** request and an analyzed page; Figure 22 is a schematic diagram of a match between...

...user profile in an enhanced online advertising system; Figure 23 is a

schematic diagram of **ad** selection based upon predicted user response;
Figure 24 shows the return of one or more top ranked selected **ads** in an
enhanced online advertising system; Figure 25 shows user impression and
clicking, linked navigation...

...flow in an exemplary enhanced online advertising system; Figure 30 shows
system response to an **ad** request from a target page in an exemplary
enhanced online advertising system; Figure 31 shows exemplary **ad**
caching in an exemplary enhanced online advertising system; and Figure 32
shows click or beacon request and **Ad** Pause/Delete.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

Figure 1 is a schematic view 10 of graphic display **ads** 22 on a web page
12a. A website 14 typically comprises one or more web...

...exemplary web page 12 seen in Figure 1 also includes one or more
graphical display **ads** 22, which often act as links 586 (FIG. 25) to an
advertising site 186 (FIG. 6). While the exemplary graphic display **ads**
22 seen in Figure 1 comprise a banner **ad** 22 and one or more other **ads**
22, a wide variety of **ads** 22 may be displayed on the web page 12.

Figure 2 is a schematic view 30 of sponsored link **ads** on a search
engine web page 12b. The exemplary search engine web page 12b, such...

...of the web page 12b.

Figure 3 is a schematic view 50 of contextual text **ads** 42 on a web page
12c associated with a news website 14c. As seen in...
...a top-level schematic view of a conventional advertising network 70.

Advertisers 72 associated with **ads** 22,42 typically interact with an **ad**
network 74, such as by a submission 80 of one or more **ads** to be placed
on web sites 12 associated with one or more publishers 76.

Advertisers...

...a large number to keywords 34 and/or phrases 34 to be associated with
each **ad** to be placed, and also typically enter a value, e.g. set or bid
price.

The **ad** network 74 places or sends 82 selected ones of the submitted
ads 188 to one or more publishers 76, who in turn present 84 content and
one or more **ads** 188 to consumers 78. Based on selected actions 86 by a
user USR 78, such...

...agreement with the advertiser network 74, payment 88 is typically made
or credited to the **ad** network 74, responsive to the tracked actions 86.
As well, the **ad** network 74 typically compensates the publishers 76 for
providing **ad** space 76 that results in actions 84,86.
Figure 5 is a basic schematic view...

...system applications 108. The exemplary system infrastructural
components 102 shown in Figure 5 comprise an **ad** generation module 114,
a page analysis cache 120, an **ad** serving module 122, and an advertising
tracking module 132. The exemplary relevance module 104 comprises an **ad**

analysis module 134, a page analysis module 136, an **ad** selection module 152, and an **ad** ranking module 138. As also seen in Figure 5, system applications typically comprise user applications...

...received the page analysis cache 120. In some system embodiments 174, the system 174 provides **ad** generation 114 based on all or part of a catalog 110 that is submitted 112 or otherwise authorized by a publisher 176. The system 174 may also receive previously prepared **ads** 188 from an advertiser 72.

The **ad** analysis module 134 analyzes received or generated **ads** 188, and stores 162 the analyzed **ads** 188 for further use, as shown generally as system storage 106.

The page analysis module...
...as in a publisher analysis database 429. Analyzed publisher pages 12 are provided to the **ad** selection module 152, which selects 508 (FIG. 19) one or more **ads** 188, based at least in part on information accessed 156 from storage 106, to the analyzed pages 116. An **ad** ranking module 138 receives 160 the selected **ads** 188, and ranks 510 (FIG. 19) the selected **ads** , wherein the ranking is preferably based on ECPM, as described below. Based on available **ad** space 184, e.g. 184a-184i (FIG. 6), and on the associated analyzed publisher page 12, one of more of the **ads** 188 having the highest ranking 510 are provided 124 by the **ad** serving module 124, whereby the served **ads** 126 are presented 194 (FIG.

6) in conjunction with the analyzed publisher page 12 to...

...i.e. relevance, component 104 integrates contextual, search and/or behavioral relevance features to optimize **ad** selection for advertisers 72.

Preferred embodiments of the enhanced inline advertising system 174 comprise a...

...pay only for true results 86: a state-of-the-art search technology that predicts **ad** relevance using dozens of pieces of evidence, and increased **ad** coverage via automatic generation of **ads** 188 and the uniform handling of all formats of **ads** 188, including but not limited to text **ads** 618, graphical **ads** 620, hybrid **ads** 622 and rich media **ads** 624, as seen in Figure 26.

Advertiser Interaction with Enhanced Online Advertising System. Figure 7
...

...enhanced online advertising system 174. An advertiser 72 sets 202 objectives 86 associated with an **ad** campaign 222, wherein the objectives 86 comprise desired results, i.e. actions 86. The advertiser

...

...186, and may preferably analyze other information, e.g. such as but not limited to **ad** site analysis, such as provided by the advertiser 72.

Figure 8 is a schematic diagram...associated with an advertiser entity 72 typically comprises a group 240 of one or more **advertisements** 188, e.g. 188a-188n (FIG. 8), such as desired to be placed, i.e...

...campaign 222 also typically comprises an advertiser web site 186, which comprises one or more **ad** web pages 228, wherein at least one of the web pages 228 comprises a landing page 230 associated with selection by a user USR of one of the placed **advertisements** 188, e.g. upon selection of clicking upon a paced **ad** 188, the browser 190 (FIG. 6) associated with a user USR navigates to the associated landing page 230 at the **ad** site 186.

Through the advertiser interface 226, an advertiser 72, such as through an advertiser...

...that results from customer clicking 584 (FIG. 25), i.e. selection 584 of a placed **ad** 188, customer navigation 586 (FIG. 25) to the advertiser web site 186 through the landing...

...or a commission percentage for each of the entered objectives 86, and one or more **advertisements** 188, i.e. **ad** creatives 188.

Bid Pricing in the Enhanced Online **Advertisement** System. In preferred embodiments of the enhanced online advertising system 174, advertisers bid 204 for...

...pay for their respective actions 86. The more the advertiser 72 bids, the more likely **ads** 188 are shown 194 (FIG. 6), and the more actions 86 generated. This bidded market is more efficient at getting advertisers 72 to disclose the true value of the **ads** 188, and thus the enhanced online advertising system 174 is better able to select **ads** 188 that are truly relevant to users USR and profitable to publishers 76.

In some...

...advertising system 174, an advertiser 72 can associate a CPA bid price 252 with an **ad** 188 in variety of ways, such as by a maximum bid CPA 252, a variable bid CPA bid 252 (FIG. 9), an **ad** -based CPA bid 252 (associating a bid with an **ad**), and/or a beacon-s based fixed bid 252 (associating a fixed bid with a...

...advertiser 72 associates a different maximum CPA price 252 with each of a plurality of **ads** 188, e.g. for tens, hundreds, thousands, or millions of **ads** 188. For example, a large retailer 72 may have a to separate **ad** 188 for each of the millions of products 590, e.g. 590a (FIG. 25), in an associated catalog 462 (FIG. 17), wherein each **ad** 188 may have a different associated CPA 252 reflecting the value to the retailer 72...

...goal 86, and may set a single maximum CPA 252 that applies to all their **ads** 188.

With maximum bid CPA 252 in the enhanced online advertising system 174, an advertiser...

...example, in some system embodiments, for any action 86 resulting from placement 194 of an **ad** 188, the system 174 reduces the actual CPA 252 to be paid 594 (FIG. 25...

...one increment more, e.g. one cent more, than the minimum necessary to keep the ad 's position, i.e. ranking 510 (FIG. 19) relative to other ads 188 on the publisher page 12. Thus, an advertiser 72 can set a maximum bid...

...time how much to pay for an action 86 resulting from placement 194 of an ad 188. For example, a retailer 72 may define an "action' 86 to be completing a...

...g. $25US, for each new customer USR who purchases 86 as a result of an ad 188, where such a payment, e.g. $25US, represents a portion of the expected lifetime...

...variable CPA 252 more accurately reflects the value of an action 86 resulting from an ad 188. For example, a retailer 72 might create two different ads 188 for the same product 590. One ad might appeal to price-sensitive customers USR who end up purchasing just the product 590 advertised 188, whereas the other ad 188 might io appeal to price-insensitive customers USR who end up purchasing much more...

...advertiser 72 automatically conveys to the system 174 the true underlying value of each different ad 188. The advertiser 72 is not required to know ahead of time how much each ad 188 is worth, and doesn't need to is measure the value, as the system...

...method, the advertiser 72 knows that the larger its bid 252, the more likely its ads 188 will be shown 194 on any given publisher page 12, and if shown, preferably the higher or more visible on the page 12 relative to other ads 188. Thus, the more the advertiser 72 bids 252, i.e. agrees to pay 594...

...i.e. configures 208 the assets associated with the entered advertiser campaign 222, including the ad web pages 188, landing pages 230, and advertisements 188 associated with the advertiser web site 186, and stores 302 the analyzed assets for...

...a large amount of information in regard to their own s perceived relevance of their ads 188, and their own perceived relative relevance to possible publisher sites 12, e.g. such as to input a large number of key words associated with ads and their respective advertiser web site 186. Existing ad technologies require a large amount of manual effort by an advertiser to generate and target ads , and the relevance is limited to the expertise of the advertiser 72.

In contrast, the...

...and all content 228,230,188,240 the relevance of the advertiser campaign 222 and ads 188 are automatically determined. As will be described below, overall relevance in the enhanced online...

...of relevance, such as including relevance to publisher assets and relevance to users USR.

Publisher Ad Site Interaction with Enhanced Online Advertising System.

Figure 12 is a process flow diagram for publisher ad calls 400 in an enhanced online advertising system 174. One or more ad requests 402 are automatically generated from the browser 190 at a user device 78, when...

...visits a web page 12 at the publisher web site 14, in response to available **ad** space 184 (FIG. 6) on the corresponding publisher web page 12.

If a determination 414...

...be fresh, i.e. current, the system 174 may proceed to determine 418 the best **ad** 188 or **ads** to serve 194, such as seen in process 500 (FIG. 19).

If the determination 414...

...be fresh, i.e. current, the system 174 may preferably proceed to serve 416 an **ad** 183 of general relevance during a first **ad** call 402, until contextual analysis 404 can be performed. In some system embodiments 174, **ads** 188 that are determined to be of general relevance are selectable by publishers 76, wherein the system 174 allows each publisher to define one or more default **ads** 188. The system 174 can then show one or more of the default **ads** 188 for any publisher page 12 that hasn't yet been analyzed, until the system 174 has finished analyzing the page 12. Some system embodiments 174 may alternatively select general **ads** 188, based on the title of the page 12, which can be passed in the **ad** call 402, and/or based on one or more other feature elements associated with the...

...provides an automated contextual analysis 404 of the web page 12 corresponding to the available **ad** space 184. The system 174 also preferably provides secondary analysis 406 of other relevant publisher...

...information 412.

Figure 13 is a schematic diagram 420 of an input of a publisher **ad** request 4Q2 in an enhanced online advertising system 174. An **ad** call 402 from a publisher web site 14 is received by the enhanced online advertising...

...schematic diagram 430 of contextual analysis 404 of a web page 12 associated with an **ad** request 402 in an enhanced online advertising system 174. Figure 15 is a schematic diagram 440 of site analysis and integration of secondary data associated with an **ad** request 402 in an enhanced online advertising system 174. Figure 16 is a schematic diagram 450 of completion and storage 412 of publisher analysis associated with an **ad** request 402 in an enhanced online advertising system 174, including the results of the contextual...
...and associated information. Figure 18 is a process flow diagram 470 for the input, analysis, **ad** generation and **ad** serving for catalog assets in an enhanced online advertising system 174.

The exemplary file 460...

...even millions of products 590, whereby the application of human expertise in the establishment and **promotion** of more than a limited percentage of a catalog 462 is often unfeasible or impossible...

...590, whereby a catalog file 460 may be received and automatically analyzed, to automatically produce **advertisements** 188 which may be efficiently stored and served by the system 174.

As seen in... ·

...assigning 204 (FIG. 9) corresponding bids 252 (FIG. 9).

The bid price 252 of an **ad** 188 is preferably assigned from a price
field 466, e.g. is 466e, in the catalog 462. This is important for both
ad -based CPA bids 252 and commission-based CPA bids, both of which
require that each **ad** 188 have an assigned CPA 252.
An advertiser 72 can preferably send new versions of...

...462 are new, which have been modified, and which have been deleted, and
updates the **ads** 188 accordingly.

The system 174 preferably performs an analysis 208 of the content 466 of
...

...all product fields 466, e.g. such as fields 466 to be included in the
ad 188, as well as other field information 466. The analysis 208 may
also preferably comprise...

...or other advertiser web pages 228.

The system 174 then typically produces, at step 114, **ads** 188 for the
analyzed assets 590, i.e. products 590. As seen in Figure 18...

...system 174 may also determine an appropriate format 476 for one or more
of the **ads** 188 for an advertiser 72, such as to apply an **ad** template
482. The determination of **ad** formats 476 may preferably include input
from any of the advertiser 72, a secondary source 478, e.g. such as an
ad design firm associated with the advertiser 72, internal **ad** format
input 480, e.g. such as to provide one or more **ad** styles, and in some
system embodiments 174 may also receive input from content analysis 208
...

...item 590, and transforms one or more of the fields 466, such as with an
ad template 482, to produce a corresponding catalog **ad** 188.

As also seen in Figure 18, the system 174 similarly stores 302 the
catalog **ads** 188, and can integrate and serve 194 the **ads** 188
alongside other submitted **ad** Is creatives 188 as desired, as shown
schematically by the **ad** serving module 122.

User Interaction with the Enhanced Online Advertising System. Figure 19
is a...

...USR navigates 502 to view a publisher page 12 through a user terminal
78, an **ad** request 402 is generated and sent to the system 174. The
automated **ad** request 402 is then matched to the stored analysis results
412 associated with the viewed...

...524, stored in a profile database 522.
One or more of the best available stored **ads** 188 are selectively
determined 508, based on a prediction of effective impression revenue of
the **ads** (ECPM), which is preferably a function of the stored analysis
results 412 and/or the matched profile 52. One or more of the top ranked

ads 188 are then returned 512 to the user terminal 78 for served display 194 (FIG...

...to the determination step 508.

Figure 20 is a schematic diagram 520 of an automated **ad** request 402 associated with user activity in an enhanced online advertising system 174. For example...

...USR navigates 502 to view a publisher page 12 through a user terminal 78, an **ad** request 402 is generated and sent to the system 174.

Figure 21 is a schematic diagram 530 of a match 504 between a received automated **ad** request 402 and stored analysis results 412 associated with the viewed page 12, which may...

...the system 174.
Figure 23 is a schematic diagram 560 of selective determination 508 of **ads** 188, which is preferably based upon either predicted or observed effective impression revenue of the **ads** (ECPM)I in an enhanced online advertising system 174.

Figure 24 is a schematic diagram 570 that shows the return of one or more top ranked selected **ads** in an enhanced online advertising system 174.

For **ads** 12 that appear very frequently on publisher pages 12 that get lots of traffic, the system 174 may preferably use observed action rates 86 of the **ad** 188 on those pages 12, such as in preference to predicted action rates.

For **ads** 188 that appear very frequently on publisher pages 12 that get lots of traffic, i.e. clicks 584, the system may preferably incorporate observed action rates 86 of the **ads** 188 on those pages 12 in addition to the predicted action rates 86. In such...

...86 may often be more accurate.

For each such pair of target page 12 and **ad** 188, the system 174 preferably tracks the past number of impressions 572 and resulting actions...

...25, when a user is USR navigates 502 to a publisher page 12 having available **ad** space 184, the system 174 presents, i.e. serves 194 one or more **ads** 188, based upon effective impression revenue of the **ads** (ECPM).

A user USR may then select, i.e. click 584 on a served **ad** 188, typically by a user input 582, such as in response to an impression 572 ...

...593 seen in Figure 25, for a user USR who initially clicks 584 on an **ad** 188 to navigate to an advertiser site 186, and who at a later time, e...

...specify the number of days that can elapse between the user clicking 584 on an **ad** 188 and then coming back to the advertiser's web site 186 to complete the...

...days, such that as long as a user USR who clicks on the retailer's **ad** 188 makes a purchase within 45 days, the system 174 gets credit, e.g. payment...

...regarding a product 590a, e.g. such as a bicycle 590a associated with the served **ad** 188.

For products 590 associated with catalog **ads** 188, the text copy, images, and purchase information may typically correspond to field information 466...

...four purchased products 590, such as the bicycle 590a directly associated with the served 194 **ad** 188, a related helmet product 590b, as well as 2 bike jerseys. Based upon the entered bid 252 and bid type, e.g. percentage or commission of the **ad** item 590a or of the entire shopping cart 588, a payment, credit or similar transaction...

...the system 174, typically for compensation related to placement, i.e. serving 194 of the **ad** 188.

As seen in Figure 25, the enhanced online advertising system 174 greatly simplifies the generation and targeting of **ads** 188, and provides significantly greater **ad** relevance for served 194 **ads** 188, resulting in **ads** 188 that are more meaningful to consumers USR, more effective for advertisers 72, and thus more lucrative for publishers 76.
While existing **ad** technologies require a large amount of manual effort to generate and target **ads** , they provide at best mediocre relevance. In contrast, the enhanced online advertising system 174 simplifies the generation and targeting of **ads** 188, and also provides significantly greater **ad** relevance for **ads** to be served 194, resulting in **ads** 188 that are more meaningful to consumers USR, more effective for advertisers 72, and thus...

...and pay only for true results; a state-of-the-art search technology that predicts **ad** relevance using dozens of pieces of evidence; increased **ad** coverage via automatic generation of **ads** and the uniform handling of text and graphical **ads** ; and a pricing model based upon bidded cost per action (CPA) pricing.

In the enhanced...

...cost per action" (CPA), which may include but is not limited to a cost per **ad** impression (CPM) or a cost per **ad** click (CPC). With CPA pricing, the advertiser 72 pays for consumer "actions" 86 resulting from the **ads** 188 that are meaningful to their business and are measured easily. Typical actions 86 comprise...

...an advertiser 72. For example, an advertiser 72 can effectively choose to use cost per **ad** impression (CPM) or cost per **ad** click (CPC), such as by defining a desired action 86 associated with an **ad** to be viewing or clicking on the **ad** 188.

CPA pricing has long been attractive to direct-response advertisers, those who justify the...

...results. With CPM or CPC pricing, the advertiser 72 must work hard to target the **ads** 188 and measure their effectiveness, so as not to waste

money on impressions or clicks that don't generate business. With CPA pricing, the **ad** network 174 assumes all the risk of targeting the **ads** 188, measuring their effectiveness, and generating revenue 596 for publishers 76. Advertisers 72 do not...

...72 are typically only required to pay for actual business results.

A number of existing **ad** networks provide CPA pricing, but with significant limitations. With such conventional networks, CPA prices are ...

...network and the advertiser, resulting in inaccurate estimates of the effective impression revenue of the **ad** (ECPM). Since ECPM is typically used for selecting **ads** to be displayed, the inaccuracies result in suboptimal relevance for the consumer and revenue for...

...networks generally have a single, uniform CPA price applied to the entire run of an **ad** throughout the network.

Measuring Actions. The enhanced online advertising system 174 provides the advertiser 72...

...several mechanisms widely used in the industry for associating actions with impressions or clicks of **ads** and counting the resulting actions.

The enhanced online advertising system 174 typically provides two kinds ...

...8), such as using images and/or JavaScript. The beacons 234 are placed on an **ad** web page 228, typically on a confirmation page 232 associated with an action 86 selected...

...of an action 86. The system 174 typically associates the action 86 with either an **ad** impression 572 or click 584, using system cookies 191 (FIG. 6) that were set in the user's browser 190 when an **ad** 188 for that advertiser 72 was displayed or clicked.

A JavaScript beacon 234 is a...

...browser 190 for system cookies 191, in order to associate the action 86 with an **ad** impression 572 or click 584.

The system 174 can also utilize some kinds of third...

...some system embodiments 174 add a unique code in the landing-page URL of an **ad** 188 that identifies the particular click-through 584. The advertiser's web server 186,224...publishers 76 by withholding some or all beacons 234 acknowledging completed actions 86 for an **ad** 188, the advertiser 72 is inherently only cheating itself. For example, in such an event...

...of actions 86 has fallen, and thus computes a lower ECPM ranking 510 for the **ad** 188, whereby the **ad** 188 is then less likely to be displayed 194, if at all. An advertiser 72 therefore inherently lowers the bid price 252 associated with an **ad** 188 by attempting to cheat on the reporting of beacons 234.

Similarly, if a variable...

...advertising system 174, such an advertiser 72 simply lowers the expected CPA 252 from the **ad** 188, and thus the **ad** 's ECPM ranking 510, whereby the **ad** 188 is less likely to be shown 194.

Click Fraud versus CPA Fraud. As discussed previously, click fraud is a serious problem for **ad** networks using CPC pricing. For example, it's very easy for a fraudster using off-the-shelf software to generate tots" that repeatedly click on **ads** 188, thereby sapping the **budgets** of advertisers 72 and possibly generating fraudulent revenue for unscrupulous publishers 76. But compared to...

...by only recognizing a small number of actions 86 to be recorded for each unique **ad** click 584 (FIG. 25) or impression 572 (FIG. 24). When the enhanced online advertising system 174 serves an **ad** click 584 or impression 572, the system 174 typically writes a system cookie 191, containing...

...coupon download. Such a fraudster may attempt to write a bot that clicks on an **ad** 188 and then clicks on the associated beacon 234. As before, simple IP-address filtering...
...mechanism that verifies if a human USR, rather than a bot, is interacting with its **ad** Web pages 228 (FIG. 8).

For example, CAPCHAs often require the user USR to enter...

...State-of-the-Art Search Technology. The enhanced online advertising system 174 displays highly relevant **ads** 188 to users USR by applying state-of-the-art search technology. To select **ads** for a publisher web page 12 and a user USR, the enhanced online advertising system...

...real time, or to search and then briefly cache 635 (FIG. 30), through millions of **ads** 188 to find the few **ads** 188 that are most relevant to display 194.

Defining Relevance in the Enhanced Online Advertising System. The enhanced online advertising system 174 preferably defines the relevance of an is **ad** 188 for a given context to be exactly the effective revenue, e.g. the ECPM, which the enhanced online advertising system 174 expects to receive if it displays the **ad** 188 in that context.

An **ad** 188 by its very nature represents a commercial exchange with the user USR. An **ad** 188 is therefore important to the user USR to the degree that the user USR finds it useful in completing a commercial exchange. If a consumer USR clicks an an **ad** 188 she or he thinks is interesting but then fails to complete the exchange, then most likely that **ad** 188 is not of ultimate value to the consumer USR. That is, the more likely...

...consumer USR is to complete a commercial exchange, i.e. an action 86 via an **ad** 188, the more value the **ad** 188 has to the consumer USR, and the higher the effective revenue.

As well, a...

...purchasing a $30, 000 car than a $10 book. The CPA price 252 of an **ad** 188 is typically directly proportional to the value of the commercial exchange 86. Thus, the...

...higher the effective revenue.

Thus, both the rate at which consumers USR respond to an **ad** 188 and the monetary value of the **ad** 188 determine the importance of the **ad** 188 to the consumer 188. Therefore, in preferred embodiments of the enhanced online advertising system 174, factors that determine the effective revenue of an **ad** 188 are dependent on both the rate at which consumers USR respond to an **ad** 188 and the monetary value of the **ad** 188.

Relevance and Relevance Features in the Enhanced Online Advertising System. Some conventional **ad** technologies typically require test campaigns to measure how well an **ad** 188 performs in a given context. Such testing often limits the relevance of the **ads** 188, the number of **ads** 188, and the number of is publisher pages 12 that can be effectively targeted.

In...

...the enhanced online advertising system 174 is able to predict the revenue related to an **ad** impression 572 for an **ad** 188 that has never even been seen before, in a context, e.g. a publisher...

...be scaled to provide highly accurate and relevant targeting for virtually an unlimited number of **ads** 188 and publisher pages 12 and users USR. Advertisers 72 can freely generate many different **ads** 188 to accomplish the same goal, such as to find out which **ads** 188 work best in which contexts, at a cost much lower than other **ad** solutions. As well, the enhanced online advertising system 174 preferably provides a predictive technology that is based on machine learning 516 (FIG. 19). While traditional **ad** solutions typically use only a few variables, such as key words and phrases manually entered...

...the system 174 provides feedback 518 (FIG. 19), to improve the predicted response of selected **ads** 188, at step 508 (FIG. 19).

Machine learning 516 produces a function P that preferably takes as input all of the "relevance features" of the **ad** 188, the advertiser 72, the target page 12, the publisher 76, and the user USR, and predicts the probability that the user USR will take action 86 on that **ad** 188 in that context. These features are represented as a feature vector 814 (FIG. 29...

...large number, e.g. lOOK or more, of examples, where each example corresponds to an **ad** 188 presented in a context to a user USR, and whether or not the user...

...of 0 (no action) or 1 (action).

The training data 132 preferably comes from the **ad** network 174 itself, by randomly sampling the examples from the millions of presentations 194 of **ads** 188 the network 174 makes every day.

The machine-learning algorithm 516 is retrained frequently...

...text features and behavioral features, e. g. past behavior of users, to determine and present **ads** 188 having the greatest predicted value to each user USR. In addition, machine learning allows...

...system 174 may preferably consider term matches between a publisher site 12 associated with an **ad** call 402, and advertising sites 186 associated with **ad** creatives 188, wherein the term matching may consider any of: * one or more levels of...

...the system 174, such as automatically constructed, i.e. clustered categories, and/or manually constructed **ad** vertical categories. In some system embodiments 174, categories are represented by any of a simple...

...into account the past aggregate action rates on each pair of target page category and **ad** category.

Category matching in the enhanced online advertising system 174 may also take into account...

...concept extraction and matching, such as for between any of a target page 12, an **ad** creative 188, such as comprising **ad** fields, e.g. **ad** copy 466, and a landing page 230. As well, the system 174 may provide paragraph...

...may also be used by the system 174 in regard to the position of available **ad** space 184, such as at the top, right, left, or bottom of a publisher page...

...system embodiments 174, action histories comprise any of: * Number of clicks per {page, publisher) and { **ad** , advertiser) pairs; * Number of actions per {page, publisher} and { **ad** , advertiser) pairs; and/or * Revenue per {page, publisher) and { **ad** , advertiser} pairs.

Furthermore, some embodiments of the enhanced online advertising system 174 may preferably consider...

...user USR may be determined to be relevant in conjunction with the past performance of **ads** 188 by the advertiser 72, e.g. the system may observe a distribution of the response to an advertiser's **ads** 188 by geographic location, using the IP address of the users USR who have completed...

...user USR. Such location-based relevance may preferably be used for advertisers 72 and/or **ads** 188 that have a geographic appeal, such as for **ads** 188 for a service-based company that are particularly relevant to regions in which the...

...regional stores near a user USR.

The system 174 may also consider any of reGency, **frequency** , and/or monetary behavior of a user USR, such as by a site or page...

...corresponding to a user USR can be tagged, using anonymous cookies 191, whereby the recency, **frequency** , and/or monetary behavior of a user USR

is reported and tracked, such as in...

...preferably integrated with relevance determinations 104.

The system 174 may also preferably integrate matching of **demographics** between {advertiser 72, product line 462} and {publisher 76, publisher site 14 andfor section 12}. **Demographics** may include the distribution of age, gender, household income, geographic region, or level of education...

...the visitors to the advertiser or publisher sites. For example, the system 174 may provide **demographic** matching based on external information, e.g. data from comScore, or may determine **demographic** matching based on data provided by advertisers 72 and publishers 76.

As well, the system...

...embodiments of the enhanced online advertising system 174, every time the system 174 receives an **ad** call 402 from a publisher page 12, the system 174 conducts a real-time auction among advertisers for the **ad** slots 184 (FIG. 6) on the page 12. The advertisers' **ads** 188 that will deliver the greatest revenue per **ad** impression (RPAI, what the industry calls ECPM, or cost per thousand impressions 572) are chosen...

...based on an estimation of the probability that an action 86 will occur given an **ad** impression 572 (FIG. 24).

In preferred system embodiments of the enhanced online advertising system 174...
...maximum CPA 252 for an action 86. As well, for actions 86 associated to an **ad** click, the total CPA the advertiser 72 actually pays is reduced from the maximum to an incremental value more than that needed to maintain ranking for the **ad** 188 above the next highest-ranked **ad** 188.

Setting CPA Bids. The system typically measures actions using beacons 234, and advertisers 72 associate CPA bids 252 for actions 86 with the corresponding beacons 234. For a given **ad** campaign 222, the system 174 preferably provides advertisers 72 with different selectable methods for assigning CPA bids 252 to actions 86, such as by **ad** -based CPA 252, beacon-based fixed CPA 252, or beacon-based commission CPA 252.

Ad -Based CPA. In **ad** -based CPA bidding 252, there is one beacon 234 in the campaign, and a CPA bid is assigned to each **ad** within the application.

Whenever an **ad** 188 is clicked and eventually triggers a beacon 236, the system 174 uses the assigned CPA of the **ad** 188, times a bid factor associated with the **ad** 188, as the CPA bid 252 for the beacon 234.

is For example, for a...
...beacon 234 on their confirmation page 232, the retailer can pay different CPAs 252 in **ad** -based CPA 252, based on the likely product 590 that is purchased, whereby actions 86 are associated to the most recent **ad** 188 clicked.

Beacon-Based Fixed CPA. In beacon-based fixed CPA bidding, there are multiple...

...252 is determined to be the amount assigned to the beacon 234, times the associated ad 's bid factor.

For example, an exemplary private search entity 72 may have three different...

...as a different amount 252 by the entity 72. A user USR clicking on an ad 188 could end up generating one or more of the actions 86, and different ads 188 may lead to different average mixes of actions, e.g. one ad 188 can drive users USR primarily to the download, while another ad 188 can drive users USR primarily to an email list.

Beacon-Based Commission CPA. In beacon-based commission CPA bidding, there is one beacon 234 in the ad campaign 222, and the total value of the action 86 to the advertiser 72, such...

...CPA bid 252 is equal to that value, times the bid factor of the associated ad 188..

For example, a sophisticated retailer 72 may want to assign a "true value" to...

...in the shopping cart 588, and pay for the advertising accordingly, such as for some ads 188 that statistically yield a larger-value shopping cart 588 than other shopping carts 588...

...above, the system 174 allows the advertiser 72 to associate a "bid factor" with an ad 188, the ad group 240, or the campaign 222. A bid factor allows the advertiser 72 to make instant adjustments to CPA bids 252, without reloading ad catalogs or changing server-based business rules setting commission CPA 252. For example, a catalog retailer 72 using ad -based CPA 252 can assign the list price 466d (FIG. 17) of each item 590 being advertised to the corresponding ad 188. The retailer 72 can then set a bid factor to be a percentage of...

...number of actions 86 from any one beacon 234 that canbe associated with a single ad click. This "action cap" defaults to 1. When the action cap is set greater than 1, a variable number of actions 86 can be associated with an ad click, and thus the total CPA associated with the ad .click is variable.

Similarly, with commission CPA 252, the total CPA associated with an ad click is variable.

Estimation of RPAI. As noted above, the system 174 may preferably rank each ad 188 according to the estimated effective revenue the system 174 will receive by displaying the ad· (RPAD. The system 174 estimates an ad 's RPAI as the probability of a user USR taking at least one action 86 on the ad 188, times the estimated total likely bidded CPA (TLBC) that the advertiser 72 is willing to pay for actions resulting from the ad 188, as shown: RPAI(ad) = Practions >>= 1 1 ad shown on target page) * TLBC(ad The probability of at least one action 86 occurring from the ad 188 is preferably estimated by a machine-learned model, and refined

by observations.

Estimation of the total likely bidded CPA resulting from actions 86 associated to an **ad** 188 is not always straightforward, since multiple actions 86, and actions 86 with varying CPA, can be associated with a single click on an **ad** 188. As well, different **ads** 188 can drive much different mixes of actions 188 and varying CPA 86. For example...

...such as to avoid an overestimation of the maximum CPA that could over rank the **ad** 188.

For **ads** 188 that generate a large number of actions 86, the system 174 may preferably estimate TLBC based on past history of the **ad** 188. However, many **ads** 188 do not have enough actions, or any actions at all, for the system 174...

...a valid average. In such cases, the system may preferably estimate the TLBC for an **ad** 188 from aggregate behavior of all **ads** 188 in the same **ad** campaign 222.

The formulae for the estimates of TLBC are based on the application-assigned CPA of **ads** and beacons, which allows the advertiser to adjust those assigned CPAs up or down and...

...a different way of estimating TLBC. The estimates below use observed data for an individual **ad** 188 or, if there isn't enough such data, the observed data for the containing...
...FIG. 8).

As well, sophisticated estimates can be made by using observed data from the **ad** group 240 (FIG. 8), from the advertiser 72, from similar advertisers 72, and/or from similar **ads** 188 with other advertisers 72.

Estimation of **Ad** -Based CPA. In **ad** -based CPA, the estimated total likely bidded CPA (TLBC) is defined as the assigned bid 252 of the **ad** 188, times the average number of actions associated with each **ad** impression generating at least one action: TLBC(**ad**) assigned CPA(**ad**) * action
rate(**ad**) * bid
factor(**ad**) where number of actions triggered by **ad** action rate(**ad**)
= .-number of clicks on **ad** generating at least 1 action In situations
where there aren't enough action-generating clicks on **ad** 188 to get a
statistically valid average, e.g. if the denominator is & lt; 10...

...campaign 222 may preferably be used instead, as shown: number of actions triggered by any **ad** action rate(campaign) = . . number of clicks on any **ad** generating at least 1 action If the denominator is < 10, the action rate for the campaign is 1. Note that if the action cap is 1, action rate(**ad**) is always 1.
Estimation of Beacon-Based Fixed CPA. In a beacon-based fixed CPA...

...likely bidded CPA (TLBC) is defined as the sum, over all beacons 234 for an **ad** campaign 222, of the CPA of the beacon 234, times the average rate at which the beacon 234 is triggered for that **ad** 188, as shown:
TLBC(**ad**) = bid factor(**ad**) * assigned CPA(beacon) * action rate(beacon, **ad**) Every beacon in the advertiser where: number of

actions 011 beacon triggered by **ad** action rate(beacon, **ad**) =-number of clicks on **ad** generating at least 1 action If there aren't enough action-generating clicks 86 on **ad** 188 to get a statistically valid average, ag. if the denominator is < 10, then the...

...may preferably be used instead, as shown: number of actions on beacon triggered by any **ad** action rate(beacon, campaign) .-number of clicks on any **ad** generating at least 1 action If the denominator is < 10, the campaign action rate for...

...pricing method, the system 174 requires advertisers 72 to assign a CPA 252 to each **ad** 188, as well as pass a total value in the associated beacon call 234. The...

...system 174 as a commission. The estimated TLBC is therefore the assigned CPA of the **ad** 188, times a bid adjustment factor, as shown: TLBC(**ad**)
= assigned
CPA(**ad**) * adjustrnent
factor(**ad**) * bid
factor(**ad**) The bid adjustment factor for beacon-based commission pricing represents how much the shopping cart 588, e.g. all actions or purchases 86 that are triggered by an **ad** 188, typically differs from the assigned CPA of the **ad** 188, as shown: assigned CPA(action) Every action triggered by **ad** adj ustment tactor(**ad**) = assigned CPA(**ad**) at time of click Every click on **ad** generating at least 1 action wherein the assigned CPA(action) is the value passed to...

...72 on the beacon call 234. If there aren't enough action-generating clicks on **ad** to get a statistically valid average, e.g. if the denominator is < 10, then an...

...preferably be used instead, as shown: ass igned CPA(action) Eveiy action triggered by any **ad** adjustment factor(campazgn) = . assigned CPA(**ad**) at time of click Every click on any **ad** generating at least 1 action If the denominator is < 10, the adjustment factor for a...

...86, as shown: * action id; * click Id; * adid; * campaign Id; * time of click; * asSigned
CPA (**ad**) at time of click; and * assigned
CPA (action).

Since actions 86 are relatively rare events...

...such as by maintaining in a database the summaries of the numerators and denominators for **ads** 188 and campaigns 22, covering the time period of the moving average. Periodically, such as...N days ago are removed from the summaries.

For an exemplary system 174 that has **ad** calls per month, such a system 174 may have approximately iu actions per month, or...

...4 I' I:fl 1 I' a day. Thus, there would be at most i05 **ad** summaries maintained at any one time, and at most 60K action records to process on a daily basis, e.g. every night.

The **ad** -level averages are preferably reset whenever the text of the **ad**

188 or its landing page 230 change. The campaign-level averages are preferably reset whenever a campaign changes "significantly", e.g. when more than 25% of the **ads** 188 have had their averages reset. The system 174, such as through client services, preferably includes means to reset the averages of **ads** 188 and/or io campaigns 222, such as by commands or controls.

In some system...

...that they will pay a CPA for one or more actions 86 associated with an **ad** 188, which are just high enough to maintain the **ad**'s ranking 510 above the next highest-ranked **ad** 188.

When an **ad** 188 is displayed 194, the system 174 computes an estimated reduced bid amount that the advertiser 72 should pay for actions 86 associated to that impression of the **ad** 188, using the following formula: (TLBC(**ad**), reducedCPA(ac) = rninPr(action I **ad** ,) * TLB (ad2) /Pr(action I ad1) + $0. 10 where ad2 is the next-highest ranking **ad** after **ad**. The system 172 then preferably discounts all actions resulting from that impression of the **ad** 188, such as by the following factor: reduced CPA(**ad**) discount factor(ad1) = TLB(ad1) The discount factor and the bid factor are recorded in the redirect URL of the **ad** 188 and then in the user cookie 191, when the user clicks on the URL...

...72 is invoiced for the action 86 with the discount applied as shown:
discount
factor(**ad**) * assigned
CPA(action) * bid
factor(**ad**) is Details of Advertising Entities in the Enhanced Online Advertising System.

Figure 26 is a...

...hierarchy 600 of the entities in the system used to represent advertising agencies, advertisers, and **ads** . An agency 602 may typically be associated with or comprise a group 604 of one...

...or more campaigns 608 are associated with an advertiser 604. As well, one or more **ad** groups 616 are typically associated with each campaign 608, wherein the **ad** group 616 typically comprise any of one or more text **ads** 618, graphical **ads** 620, hybrid **ads** 622, or rich media **ads** 624. A beacon library module 610, a creative library module 612, and a performance report...

...stored at a cluster-accessible storage, e.g. such as DB, NFS, SAN or similar. **Ad** serving is preferably de-coupled from **ad** management, such as if the **ad** management system goes down, the **ad** server 636 can continue to function. As well, **ad** serving and **ad** management preferably have different uptime requirements.

As seen In Figure 27, a front-end/API...

...FIG. 5). The front end server 632 also typically supports API-based manipulation of the **ads** 188 and other business objects.

One or more query coordinators 634, i.e. QC servers 634, distribute

browser, i.e. runtime **ad** requests 402 across the **ad** servers 636. An **ad** server 636 searches a subset of the **ads** 188 in response to requests from the query coordinator 634, and returns 914 (FIG. 30) the best **ads** 188 for the associated request 908 (FIG.

30) to the query coordinator 634.

A presentation server 638 accepts **ad** requests 402 from the network and forwards them to the query coordinator 634. The presentation server 638 also formats **ads** 188 that are selected by the query coordinator 634 with snippets of HTML. The presentation...

...URLs, and it tracks the invocations of beacons 234. An observation server 640 monitors the **budgets** for **ads** 188 and **ad** campaigns 222, click-through rates, click-to-action rates, and coordinates pausing/stopping **ads** 188 in the system 174.

As well, a distribution server 702 (FIG. 28) acts as a propagator of new and updated **ads** 188 and their feature vectors 814 (FIG. 29) to the rest of the system 174...

...reads and writes business objects in the system 174, such as but not limited to **ads** 188, accounts, and/or bills.

While the business objects/O-R service 652 is not...

...enhanced online advertising system 174, which provides the following process interactions between various logical processes: **Ad** Creation Request. An advertiser 72 creates an **ad** 188. The front-end code, e.g. such as running inside a tomcatbased front end server 632, receives the **ad** 188 and typically uses an O-R mapping layer to save the **ad** 188. The front end server 632 then publishes a transactional message that an **ad** 188 was created and that the **ad** 188 requires approval, such as by an approval task server 642b.
 Ad Approval Request is Picked Up by the Task Server. One of the task servers 642...

...server 642a, may first need to fetch the landing page 230 (FIG. 8) for the **ad** 188, such as if the content 16 on the landing page 230 requires additional analysis...

...FIG. 11). After the landing page 230 is crawled 804, a new request 806 for **ad** approval is generated.

The **ad** approval request message 806 is executed by one of the task servers 642, e.g. 642b, running approval tasks, which evaluates the **ad** 188 for consistency with publishing guidelines. An **ad** 188 may also be randomly selected for manual review, which results in the **ad** 188 being placed on the manual reviewer's queue of **ads** 188 to be looked at.

If the **ad** 188 is approved, an **ad** analysis request message 808 is published as needed, such as by the approval task server 642b, to announce that a new **ad** 188 that hasn't been analyzed 208 (FIG. 7; FIG. 11) currently exists on the...

...174. A task server 642, e.g. an analysis task server 642c, that responds

to **ad** analysis and/or page analysis requests, picks up this **ad** analysis request message 808. The analysis task server 642c typically analyzes and classifies **ad** 188, and computes other **ad** features. The analysis task server 642c then marks the analyzed **ad** 188 as ready for serving 194, and publishes a new **ad** available message 810, and/or other corresponding new **ad** information 812, such as but not limited to the selected action 86 and/or associated **ad** **budgets** .

The distribution server 702 and observation server 640 pick up the new **ad** information 810,812. The distribution server 702 then propagates the new **ad** feature vectors 814 to the appropriate **ad** server 636 that should have this new **ad** 188. As well, the observation server 40 is made aware 812 of the new **ads** **budget** and initial observed CPA, such as in case of a modified **ad** 188, so that the observation server 640 can stop the **ad** if 188 the **budget** is exceeded.

Run-Time **Ad** Requests. Figure 30 shows system response 900 to a browser **ad** request 402 from a target page 12 in an exemplary enhanced online advertising system 174. When a target page 12 at a user terminal 78 requests 402 an **ad** 188 to be displayed 194 (FIG. 6), the presentation server 638 computes the hash function...
...coordinator 634. The query coordinator 634 either has the cached results 914 of a previous **ad** call 402 for this target page 12, or asks 908 the **ad** server cluster 636 to compute the results. In the case when a computation is necessary, the query coordinator 634 may preferably first return some default best performing **ads** 188, and then in a separate thread, initiate the **ad** scoring coordination process. First the query coordinator 634 looks up the features for the target page 12 at the distribution server 702. Then the query coordinator 634 elects an **ad** server cluster 636 on which to execute the query and call them with the feature...

...12. Then the query coordinator 634 typically waits an incremental amount of time for the **ad** servers 636 in the cluster to finish, and merges the results, while keeping a small number of the most relevant **ads** 188. The query coordinator 634 also typically requests the **ad** copy for this very small number of relevant **ads** 188 from the **ad** server 636. The query coordinator 634 then caches the results for an incremental period of...

...this target page 12 is received, the query coordinator 634 already has the most relevant **ads** in its cache. The query coordinator 634 may preferably rotate through the best performing **ads** , such as to return one or more, e.g. 1 to 5, of the selected and ranked **ads** 188 to the presentation server 638 for HTML generation.

Every time the presentation server 638 includes an **ad** 188 in HTML 920 (FIG.

30) to be displayed 194, the presentation server 638 also...

...log. The log is periodically rotated. The impression log is used primarily for building the **ad** selection model, where a sample of the log records suffices. Therefore, it is not necessarily...

...log records all the time.

The presentation server 638 transmits, i.e. flushes, the per- **ad** impression counts 902 (FIG. 30) to the observation server 640, and may also preferably remove...

...keep observed CPA information in memory, and periodically send updated aggregate information 904 to the **ad** servers 636 themselves. The **ad** servers 636 then preferably use the refined numbers 904 to come up with more appropriate **ads** 188.
Click or Beacon Request and **Ad** PauselDelete. Figure 32 is a schematic diagram 940, which shows click or beacon requests and **Ad** Pause/Delete functionality in an exemplary enhanced online advertising system 174. When an **ad** 188 is clicked on 942, the click 942 is preferably load-balanced 710c (FIG. 28...

...request information necessary to close the loop, e.g. such as but not limited to **ad** id, advertiser Id, and/or cookies. Immediately after the request 942 is decoded, the redirector...

...instantly, while impression data 86 may be batched. Observation servers 640 keep counters on each **ad** 188 they see on valid impressions, clicks and actions 86, which are referred to as an **ad** I.O.C. triple 86. The observation servers 640 in turn make decisions, such as if the **ad** 188 should be allowed to play or if the **ad** 188 should be paused 950. In addition, observation servers 640 propagate the recomputed observed CPA rates 952 to the **ad** servers 636 themselves, such as instantly when a click or action occurs, and/or batched, such as for **ads** 188 with impressions only.

If an **ad** action sends the campaign 222 or **ad** **budget** over the daily maximum, the appropriate observation server 640 generates a pause message 950 that is sent to the **ad** servers 636 as well as the query coordinators 634, wherein **ad** servers 636 preferably no longer score the **ad** 188 until'a next allowed time period, e.g. the next day, while the query coordinators 634 check what **ads** 188 are paused 950 before serving **ads** 188 from their cache.

When an **ad** 188 is deleted or paused by the advertiser 72, such as through an the advertiser...

...server 640 similarly receives the message, and is responsible for pausing or stopping 950 the **ad** 188 from being played.

Ad Scoring Details. At the core of the system 174 the **ads** 188 are scored, such as by models that predict the RPAI of showing the **ad** for a given target page 12 and user USR, where the RPAI is estimated as the probability the user USR will take action on the **ad** times the total likely bidded CPA of the **ad** : RPAI(**ad**) = Pr@ctions >>= 1 **ad** shown on target page) * TLBC(**ad**) The probability of action 86 is estimated using a machine-learned model that takes as input a relevance feature vector 814 (FIG. 29) that measures various attributes of an **ad** 188 and the context of where the **ad** 188 is being shown and the user USR it is being shown to. The relevance features 814 can be grouped into the following categories:

Feature Range I Description

Ad /Landing Page Features from the **ad** or landing page.

Target page Features from the target page Target page / **Ad** / Features that computed by combining the target page Landing Page features and **ad** , for example term match features User-dependent Features that depend on the particular user viewing...

...behavior of the user To avoid execution of the most time-consuming model on each **ad** 188 when a target page request 402 comes in, a number of heuristics is pursued...

...system 174 typically provides multi-model scoring, using an iterative application of models to possible **ads** 188 for a particular target page 12.

Multi-model scoring is a process of applying different models to set of **ads** 188.
Each model reduces the set of **ads** 188 to a small number of final **ads** 188. Each model is more expensive to apply.

Given a target page 12, the first, le. qualification, heuristic model processes any of exclusions, out of **budget** constraints and other constraints, to reduce the pool of **ads** 188 to a smaller pool of **ads** 188 that are to be scored further. The output of this model is 0 or 1, depending on whether the **ad** 188 is allowed to be used in further scoring.

Next, a second "cheap" model is applied to each of the remaining **ads** . The cheap model is a machine-learned model using a very small number of relevance...

...to make a rough estimate of RPAI. A small percentage, e.g. percent, of the **ads** 188 with the highest estimated RPAI are passed to the next model.

Finally, an "expensive" model is applied to the remaining **ads** . The expensive model is a machine-learned model using the full set of relevance features to make refined estimates of RPAI.
The estimated RPAI for an **ad** is actually a confidence interval [mm RPAI. . maxRPAI], representing the uncertainties of the machine-learned model and the methods used for estimating TLBC. At each iteration, the **ads** with the largest maxRPAI are selected and passed to the next model.

The second major heuristic is caching of scored **ads** 188 per target page 12. The result of scoring of a target page 12 on an **ad** corpus is cached on the query coordinators 634. In some system embodiments, the top 1 K **ads** 1888 are placed into the cache, and are used for a certain period of time...

...process needs to be executed for every request.

The third major heuristic is distributing the **ads** across multiple servers. **Ads** are distributed into a cluster of **ad** servers 636.

The fourth major heuristic has to do with how term match features are...

...expensive to compute. In order to compute them efficiently, an in-memory inversed term to **ads** index of **ad** /landing page terms is constructed. The target page 12 is reduced to a small number...

...important terms and is executed as a Boolean OR query over the in memory-index.

Ad Network Components.

Load Balancers. The enhanced online advertising system 174 typically comprises a number of...

...710 that also support fail-over, and mark servers 630 as suspect.

Presentation Server. Incoming **ad** requests 402 are typically load-balanced 710 to a set of presentation server machines 638...

...presentation machines 638 also compose the final HTML 920, based on the small number of **ads** 188 returned to them by the query coordinators 634.

The presentation server 638 computes the...

...every time for a particular target page 12, as the query coordinators 634 cache the **ads** 188 to be displayed 194.
Presentation servers 638 also serve as redirectors of clicks and...

...572.

Query Coordinator. Query coordinators 634 comprise servers that perform smart load-balancing across the **ad** servers 636 in the cluster. A query coordinator 634 is responsible for a particular set...

...g. such as the top 30 to target page concepts that are determined during an **ad** crawl. Such information is typically only loaded when a target page 12 is requested and...

...to analyze the page 12.

Assuming the target page information is available, on an incoming **ad** request 402,906, the query coordinator 634 first consults its cache 635 (FIG. 30) to see if the top N **ads** for this target page 12 have been pre-computed earlier. A cache miss results in the query coordinator 634 quickly returning a set of popular **ads** 188 to the presentation server 638. After the query coordinator 634 finishes serving the request, the thread continues. The query coordinator 634 then selects an **ad** server cluster 636 on which to run the **ad** scoring. The query coordinator 634 passes the information on the target page 12 and the document **frequencies** for the terms in the target page 12 to each **ad** server 636 in the cluster, and then waits for the **ad** servers 636 to give back the results. The **ad** servers 636 execute all the models, and the query coordinator 634 waits with a timeout...

...query coordinator 634 merges the results back together, and keeps an even smaller number of **ads** 188 and requests the **ad** content and observed CPA for these **ads** 188 from the **ad** servers 636 in a io second round trip. Then the **ads** 188 are cached and are ready for serving next

time a request 402 on this...

...174 still receives requests for this target page 12, the query
coordinator 634 repeats the **ad** scoring process. This way the cache 635
stays current for the active target pages 12.

While some preferred embodiments of the enhanced online advertising
system 174 recompute the best **ads** 188 every time an **ad** request 402 is
made, other system embodiments 174 use caching 635, such as to provide
most system performance with more limited computational resources.

Ad Cache Rotation. The top **ads** 188 in a cache entry 930 are typically
rotated 934 for multiple requests 402. The rotation algorithm 934
preferably looks at the observed CPA rates returned with the **ad** servers
636 and computes the percentages of time that cached **ads** 188 should be
shown.

When selecting a specified number, e.g. four, of the "best" **ads** 188 to
show for a target page 12, there are often many more than the desired
number of **ads** 188 that have approximately the same estimated revenue
per **ad** impression (RPAI).

System embodiments 174 may have uncertainty in estimated RPAI values,
such as due to machine learning, the limited observations of **ad**
performance, andlor system estimates of total likely bidded CPA (TLBC).
In the presence of such uncertainties, the system 174 cannot distinguish
small differences in RPA(among **ads** 188.

Therefore, preferred system embodiments 174 take into account such
uncertainties. For example, in some system embodiments 1741 the system
172 selects a larger number of **ads** 188 actually needed, wherein the
selected **ads** 188 have a similar predicted RPAI. The system 174 then
rotates through the selected **ads** 188 when choosing the desired number
of **ads** , e.g. four **ads** 188 to show on a target page 12. The system 174
therefore does not "lock in" on a small set of **ads** 188 for a target
page prematurely, until the system 174 has collected enough observations
about the **ads** 188 to be confident of the system RPAI estimates. In some
system embodiments, such a rotation is preferably is biased towards **ads**
188 with higher RPAI estimates.

System Confidence FrameworkS The estimated RPAI of each **ad** 188 is
expressed as a confidence interval of minimum and maximum RPAI, shown as:
[minRPAI(**ad**).. .maxRPAl(**ad**)], where the confidence is a threshold set
by the system, e.g. 95 percent. The system 174 assumes that the revenues
resulting from individual **ad** impressions are uniformly distributed in
that interval. Other system embodiments 174 may assume other
distributions...

...more accurately model the estimates of RPA1. As discussed above, RPAI Is
calculated as: RPAJ(**ad**) = Practions >>= 1 **ad** shown on target page) *
TLBC(**ad**), where the probability of action is based on a blending of
predicted and observed probabilities...

...of observations in the data, using standard statistical techniques.

In some system embodiments 174, the **ad** servers 636 and query

coordinators is 634 sort lists of **ads** 188 by their mean estimated RPAI, wherein the confidence intervals of **ads** 188 are typically represented by a mean plus an error margin, rather than as a...

...avoid the computing the mean in real time, with a large number of data.

System **Ad** Cache Rotation. As discussed above, the query coordinator 634 maintains a cache 635 in some...

...a target page 12 to a candidate list 930 of at most the top N **ads** for that target page 12, where N may be on the order of 100.

To compute the candidate list 930, the query coordinator 634 periodically calls the **ad** servers 636, e.g. every 15 minutes, wherein each **ad** sever 636 periodically searches its associated **ad** index, and returns a list of at most M **ads** 188 on that **ad** server 636 with the highest mean RPAI, which is equal to: (minRPAI(**ad**) + maxRPAI(**ad**)) 12.

The value of M is preferably fairly large, e.g. 50, so that M multiplied by the :::i number of **ad** severs 636 is much greater than N. The query coordinator 634 then merges the returned lists into a single sorted list 930, such as sorted by mean RPAI.
When an **ad** call for an **ad** unit of c **ads** arrives at the query coordinator 634, the query coordinator 634 enumerates through the candidate list 930 of **ads** 188 and, for each **ad** space 184, randomly chooses an RPAI from the **ad** 's interval.

The query coordinator 634 then returns the c **ads** 188 with the highest randomly chosen RPAIs. I0

This algorithm provides a rotation of the **ads** 188 biased by their confidence intervals, as shown: bestAds= empty priority queue of length c is for each **ad** in list of **ads** for target page randomRPAI random value in [minRPAI(**ad**)..maxRPAI(**ad**)] insert < **ad** , randomRPAI> into bestAds The random value is chosen from the confidence interval, based on the...

...interval (uniform, normal, etc.).

In some system embodiments 174 the List 930 of N candidate **ads** 188 is relatively short, e.g. 100, so this algorithm is executed exceedingly fast. In...

...embodiments 174, wherein the cost of computing the random values is expensive, the list of **ads** 188 may preferably rotated after every r **ad** calls 402, e.g. every 5 **ad** calls 402.

In some system embodiments 174, such as to reduce execution time, the list o **ads** 188 is rotated just once, such as for every five **ad** calls 402. However, SInCE such **ad** rotation is typically fast and inexpensive, most system embodiments 1 7 may preferably provide rotation for each upon each add call 402.

When an **ad** server 636 comes online/offline it sends a message to the query coordinators 634 in the system so that they know which **ad** servers 636 should be available for **ad** serving. The query coordinator 634 selects an **ad** server cluster 636 that it knows can handle the request,

and the query coordinator 634...

...of failure, such as if timeout is detected. If such a failure is detected, the **ad** server 636 is marked as suspect, and typically retried within a certain period. If the **ad** server 638 doesn't come back up, a message is generated, in which human involvement...

...632 publish messages when certain important events have to occur, like an approval of an **ad** or stopping a running Is **ad** . These messages get picked up by other running components. Front-end servers 632 also support SOAP (or other protocol) API requests for **ad** management and other tasks.

Distribution Servers. Distribution servers 702 have a job of giving new **ad** , landing page 230 and target page features to the correct **ad** servers 636 and query coordinators 634. For every **ad** 188 and page 12 in the system 174, the most recent date of update is...

...Upon restart, the distribution server 702 reads the most recent date of update for all **ads** 188 and target pagesl2. Distribution servers 702 preferably have a fast connection to the disk based feature repository storage 676 (FIG. 30). When a new or updated **ad** 188 ...814 for the new object into its memory. The distribution server 702 pushes the new **ads** 188 or target pages 12 to the **ad** servers 636 or query coordinators 634, or responds to the periodic pull time type commands...

...page 12 has changed, the page will be given a new feature vector 814. The **ad** servers 636 can perform a similar process, except the process is performed on an **ad** bucket level, rather than on the level of a single target page 12. The **ad** server 636 asks the distribution server 702 to give it all the **ads** 188 for a bucket that have changed since a given date. The **ad** server 636 may get back some **ads** 188, or it may get no **ads** 188.

On a complete recovery of an **ad** server 636, it will ask for all the **ads** 188 in the bucket since the beginning of time.

Is The distribution server 702 acts as an in-memory database of what **ads** 188 and what pages need to live where. If a distribution server 702 crashes, the distribution server 702 simply re-reads the tables with the **ads** 188 and pages and catches up on the missed new **ad** /page messages, which are preserved in a persistent queue.

Observation Servers. Observation servers 640 keep track of all the **ads** 188, **ad** groups 240 and campaigns 222 in the system 174. For example, observation servers 640 monitor the active vs. paused status of **ads** 188, as well as observed CPA and daily (or weekly) **budgets** . If an **ad** 188 needs to be paused or deleted, the associated observation server 640 communicates the deletion to the **ad** servers 636 and query coordinators 634. If an **ad** 188 has its **budget** exceeded, the associated observation server 640 pauses the **ad** 188 on other servers 630.

Observation servers 640 also propagate latest up to date observed CPA rates to the **ad** servers 636. Observation servers 640 are notified by the presentation servers 638, in regard to...

...the enhanced online advertising system 174, a single observation server 640 can handle all the **ads** 188. In embodiments of the enhanced online advertising system 174 that comprise a plurality of observation servers 640, a mapping scheme maps **ad** ranges to the appropriate observation servers 640, similar to the map used to distribute **ads** 188 between the **ad** servers 636.

io Observation servers 640 typically load the data cubes for aggregated CPA rates...

...catch up on the pause/delete messages as well as any missed impressions/clicks/actions.

Ad Servers. **Ad** servers 636 respond to an incoming request from the query coordinators 634. **Ad** server functionality 636 typically operates in a cluster of identical servers 636, such as wherein each **ad** server 636 is responsible for handling a certain subset of **ads** 188. **Ad** servers 636 are typically combined into clusters of **ad** servers 636 that are identical. The **ad** server 636 selects the top N best **ads** 188 for the request from its subset of **ads** 188 and sends the associated **ad** ids back to the query coordinator 634. The entire process of scoring **ads** 188 occurs very quickly, typically in less than 100 ms.

There is no redundancy of **ad** servers 636 within the cluster itself. The number of machines 636 in the cluster is proportional to the number of **ads** 188 In the system and the number of incoming requests for which full **ad** scoring has to be performed. The number of servers exceeds the number of requests that...

...that covers MTBF related properties of the hardware. At any given point a number of **ad** servers 636 in any cluster may be down, and the **ads** 188 that reside on that **ad** server 636 may be temporarily unavailable for serving.

Ad servers 636 typically operate in a cluster, wherein **ad** server 636 are registered with a global repository of **ad** servers 636, and the updated map is then given to the query coordinators 634. When an **ad** server 636 goes down, after a number of retries it is assumed to be down and the map is adjusted to exclude it.

Ad Server Rebuild Approach. **Ad** servers 636 preferably stay in sync with the **ads** 188, by continuously rebuilding the **ads** 188 in memory. For example, in some system embodiments, some or all of the **ads** are divided into **ad** buckets, with a large number, e.g. lOOK **ads** 188, per bucket. The **ads** 188 are typically placed into buckets based upon their Id, wherein a bucket typically comprises a contiguous range of **ad** ids. **Ad** ranges between buckets do not overlap.

Therefore, while earlier created buckets may get sparse, e.g. as old **ads** are deleted, newer buckets are typically more full, except for the latest bucket, that is always being filled up. Because the **ad** ids in a bucket are contiguous, the system is typically able to compress the **ad** ids successfully when constructing the **ad** index.

Each **ad** server 636 is allowed to have a certain number of **ads** . Each bucket loaded onto an **ad** server 636 keeps track of how many **ads** 188

it has. Thus, an **ad** server 636 always knows how many **ads** 188 it has, and if it has a spot for another bucket. When a new bucket is created, it is tied to a particular **ad** server 636 and it doesn't move. The bucket creation algorithm does the following: adjusts the map to have a new entry between an **ad** range and the bucket; * allocates a bucket to a particular server in each cluster based on the server load (number of **ads**) . The allocation must not exceed a maximum number of **ads** per server. If no allocation is possible, no **ads** can be added to the system until new hardware is added. The system is monitored...

...full, e.g. in some embodiments, sales engineers look at the system before loading 1OM **ads** into it; and the final step in bucket allocation is propagating the map through the system to the query coordinators 634 and other servers 630.

The map from **ad** ranges to buckets and from buckets to servers is relatively small. For a system 174 that has 100K **ads** per bucket, there are 1K buckets for lOOM **ads** 188. Each bucket lives on as many servers as there are clusters.

Propagating this relatively...

...packets.

Instead of having an offline rebuild server, rebuilding typically happens continuously on a running **ad** server 636. The **ad** server 636 gets the **ads** and features from the distribution server 702, as described above. The **ad** server 636 typically remembers a timestamp for each bucket that it has, so that it...
...by the distribution server 702 in the case of push.

A rebuild process in an **ad** sever 636 preferably works without starving the **ad** scoring threads. In a pull system model, a rebuild thread wakes up periodically and pulls the new **ad** data from distribution for the buckets that it is responsible for. For each bucket the rebuild thread comprises the steps of: * performing the following for each transaction: * reading the **ad** bucket data starting with the last known date that it has; * writing the read in...

...and also write it to disk; and * adjusting its internal memory representation, i.e. an **ad** index, of the **ads** 188, based on the disk copy.

The **ad** index comprises a hierarchy of posting lists. Each posting list maps a term (or a 8-byte fingerprint of the term) tO a list of **ads** 188 that contain the term.

The complete list of **ads** 188 for a given term may come from multiple posting lists. The lower-level posting lists are made small enough so that the cost of inserting a new **ad** 188 is low. In the steady state, an **ad** server 636 receives a small number of new **ads** 188 per day. These new **ads** 188 are preferably added to the lower-level posting lists. When a lower-level posting...

...beyond a certain threshold, its content is merged into a higher-level posting list.

The **ad** index can be implemented as a highly concurrent data structure, where posting lists are updated in place. The **ad** index can also be implemented as a Lucene-like structure where changes are never performed ...

...new and smaller index is preferably built to accommodate the changes.

To process a modified **ad** , e.g. such as due to a refresh of a landing page 230, or a deletion of an **ad** 188, the **ad** server 636 needs to know the difference between the old version and the new version...

...distribution server 702 does not send the content difference along with the change request, the **ad** server 636 typically maintains the **ad** content on its local disk, and computes the difference before adjusting the **ad** index.
Stop messages are typically broadcast in the system 174 by the observation server 640, so that both **ad** servers 636 and query coordinators 634 reflect in their cache all the stop requests. The...

...data required for the task.

Such tasks typically comprise any of: * intelligent approval of the **ad** ; * crawler tasks; * page analysis; * fraud detection on the click-stream; * nightly report generation for publishers...

...that are capable of executing certain tasks, whereby certain servers 642 are set aside for **ad** approval for example, and perform no other tasks.

Crawling and Page Analysis. When a system...

...i.e. crawled content or text classification for the page 12.

While most page and **ad** information is stored in the database, the feature vectors 814 are stored in disk on...

...a message sent to the observation server 640 and distribution server 702 to make the **ad** go live. Alternatively, the observation server 640 can poll the page store periodically for changes. Note that the system 174 does not typically use an **ad** 188 unless its landing page 230 2i u u.

has been crawled at least once. The landing page 230 often contains valuable information, such as user reviews. Therefore, serving **ads** 188 without knowing the content of a landing page 230 may lead to poor **ad** selections. The principle holds true for catalog **ads** , which can take days to crawl, due to the large number of landing pages 230...

...typically have to be periodically re-crawled. Re-crawl intervals depend on the rate of **ad** requests 402 from the page 12, and how often changes are detected during re-crawls...

...page 12. Note that the analysis pipeline may be different for target pages 12 versus **ads** 188 and/or landing pages 230.

Most web sites tolerate only a small number of...

. ...example:

new target pages 12 are preferably fetched within seconds, to ensure the
quality of **ad** selection for the page 12; new landing pages 230 for
non-catalog **ads** 188 are preferably fetched within minutes, e.g. 15
minutes, so that new **ads** are deployed in a timely manner; and/or * new
landing pages 230 for catalog **ads** are preferably fetched within a day
(some system embodiments 174 may not be able to...

...that such pages are fetched in minutes, because an advertiser 72 may
load millions of **ads** 72 at a time.

The system 174 also preferably re-fetches all pages periodically to...

...31), due to the absence of a recent hit.

The landing pages 230 for modified **ads** 188 are typically treated like
new landing pages 230, wherein such landing pages 230 are typically
re-fetched within minutes. As well, the landing pages 230 for modified
catalog **ads** 188 are typically treated like new landing pages 230,
wherein such landing pages 230 are typically re-fetched within a day.
Furthermore, the landing pages 230 for all **ads** 188 are typically
re-fetched at least once every M days, e.g. at least once every days. The
system 174 may increase the **frequency** of re-fetch for a page 12, such
as if the observed **frequency** of change is higher.
During peak load, the crawler 642a may not be able to...

...in the following order: * new target pages 12; * landing pages 230 for
new non-catalog **ads** ; * existing target pages 12; * landing pages 230
for modified non-catalog **ads** ; * landing pages 230 for new catalog **ads**
; * landing pages 230 for modified catalog **ads** ; and * landing pages 230
for unmodified **ads** .

The crawler 642a is able to handle web sites with a reasonable
authentication protocol. For...

...online advertising system 174 has a workload comprising 20,000 target
pages 12, Twenty million **ads** , of which 1 percent change per day, in
which all target pages 12 are refreshed...

...about 8 hours for one day's worth of work. To bootstrap a 20 million **ad**
inventory in a day, the crawler is able to complete 231 fetches a
second. In...

...performance may not be possible at all times, such as if the majority of
the **ads** 188 come from a few catalog advertisers 72 that only allow a
E?:rn.
few...

...second. Therefore, for large catalog campaigns 222, it may take a few
days for their **ads** 222 to go live after they are bulk loaded into the
system 174.

s Monitoring...

...monitoring software is used by the ops.

Gracefully taking down some servers 630, like the **ad** server 636, results in a message published on a bus so that query coordinator 634 knows not to attempt to use this server for serving **ads** .

System Maintenance. The system architecture preferably permit occasional maintenance operations with as little down time as possible. For example, the **ad** serving subsystem is designed to be up all the time, even when the **ad** servers 636 themselves are being replaced. The publisher/advertiser application serve4 142?, on the other...

...query coordinators 634 * Addingfremoving task servers * Replace distribution server 702 or observation server * Adding/removing **ad** servers 636 from the cluster, for example, to throttle the system capacity or to repair/upgrade the server hardware.

* System-wide upgrades, which include: * Upgrading the **ad** serving subsystem with a new turn release.

* Upgrading the database server to a new vendor...

...also be triggered by excessive load on the primary query coordinators servers 634.

A new **ad** server 636 typically registers itself with the global repository of machines in this cluster and participates in the serve/rebuild process. Query coordinators 634 are notified when an **ad** server machine 636 comes up or goes down in the cluster. Query coordinators 634 can also preferably detect a down **ad** server 636 and put it into suspect and then into a downed state.

In some...

...system 174 is designed to handle the ii:: !::: ;t downtime of these servers without affecting **ad** server or other operations. They are monitored and failed over in the case they go...

...servers 640,702, with fail-over algorithms.

System-Wide Upgrades. An upgrade release for an **ad** server 636 is not preferably performed during any down time of the **ad** serving subsystem.

Therefore, removal of one or more, i.e. a subset of the **ad** servers 636, is preferably only performed at times when there is at least one active **ad** server 636 for each redundancy group. The inactive **ad** server 636 then receives the latest turn code release with the necessary changes to its state data, e.g. a new log format. The upgraded **ad** sen/er 636 can then be added back to the active pool with the appropriate...

...the system to run with two different code releases at the same time. Therefore, the **ad** server code allows a new release to execute the message protocol of a previous release...

...least one version. Alternatively, some system embodiments 174 run both versions of code until all **ad** servers 636 are upgraded, at which point the system 174 atomically switch to the latest...

...during the window of maintenance.

Although the database server is down during the upgrade, the **ad** servers 636 must continue to serve **ads** 188. To decouple the database server and the **ad** serving subsystem, the system 172 preferably follows the design principle that an active **ad** server 636 never reads data or writes data directly to the database server. Instead, data...

...have the task server 642 push the incremental changes between the database server and the **ad** servers 636. The to push can be performed at regular intervals, e.g. such as for new **ads** or new impression counts, or it can be triggered on demand by either subsystems.

The...

...642, observation servers 640, and/or distribution servers 702 is not typically on the critical **ad** serving path, so these systems may be safely shutdown, updated as necessary, and brought back...

...The performance data includes the number of impressions 572, the average rank of the displayed **ad** (s) 188, the number of clicks 584, the number of actions 86 and the details...
...The standard reports are for non-catalog based campaigns, each of which has a small **ad** inventory, e.g. thousands. Catalog reports are preferably provided for catalog-based campaigns 222, which can have millions of **ads** 188, Again, for the sake of a reasonable response tIme, the system 174 typicall restricts...

...catalog reports. For example, the system 174 does not typically provide performance data at the **ad** group level 240 for catalog reports.

At any given point in time, the system's...

...of performance data is a daily aggregate or a partial daily aggregate for an individual **ad** . The partial aggregates for the current day are maintained by the observation server during the **ad** serving process. These aggregates are sent to the reporting database as frequently as performance permits...

...As the result of the roll-off, the reporting store must maintain a separate per- **ad** fact table to store the "inception-to-date" performance data. The inception-to-date fact...

...by a database that supports partitioning, parallel queries and possibly materialized views.

For each per- **ad** fact table, the system 174 maintains a small collection of roll-up tables to speed...

...the individua' transaction records.

Sizing estimate. For an exemplary system 174 that serves 50 million **ads** 188, 10,000 distinct target pages 12 per day, and a 15-minute refresh of the target pages 12, an estimation of the size of the per- **ad** fact table is shown as: Daily performance data: 10,000 pages * 100 (re-selection/day) * 4 (**ads** /selection) = 4 million rows/day.

Keeping the past 7 days' data requires 7 * 4M 28rows.

Weekly performance data: 4 million **ads** /day * 7 (days/week) /2 (duplicate per **ad** per week) = 14 rows/week.

Keeping 4 weeks of data requires 14 * 4M= 56 million rows.

Monthly performance data: As most or all **ads** would seen in a month's time, there would be about 50 million rows a...
...transactional data for the publisher/advertiser apps 142 (FIG. 5); * a feature store: data for **ad** serving; and * a report store: performance data for reporting and billing.

t::::"t i i...

...category.

* Indices for lookup-by-id and ordering-by-time. Examples include the page or **ad** features and the page analysis data (for the crawler).

* Relational databases for transactions and **ad** hoc queries. The publisher and advertiser configurations are typical examples.

* OLAP databases (parallel queries, partitioning...

...or re-computed.

Runtime Data. There is variety of data needed for the run-time **ad** serving. The data is propagated to the **ad** servers 636 and cached on their local disks.
Computed features and feature lookup tables are examples of such type of data.

This data is further cached in memory by the **ad** servers 636 to improve runtime performance. The system uses message queuing to support distributed computing...

...applications and various runtime services when database access performance is not an issue.

to Runtime **ad** -serving typically uses feature vectors 814 and optimized versions of loaded database-based objects when...

...make sure that only needed data is fetched, and in the most optimal way possible. **Ad** -serving also loads and caches (when possible) pre-computed features and feature lookups out of...

...consumer from a cluster of identical consumers. An example of this a creation of an **ad** 188 that triggers exactly one approval of an **ad** 188, via the approval task. The second important type of message is a multi-cast...
...message.

iii' I,,,. I,,,,' u.n u.n tin, An example would be if an **ad** 188 is paused, a multi-cast message to all the **ad** servers 636 serving this **ad**

188 should stop this **ad** 188 from being served 194.

Messages are asynchronous. Asynchronous messaging is an excellent way to
...

...machine and its primary role, e. g. such as for a query coordinator 634,
an **ad** server 636, and/or a task server 642. The term "service" as used
herein, such...

...of hardware, typically refers to software that can receive and process
messages, e.g. the " **ad** server service" is the module that serves **ad**
server scoring requests. Similarly, the term "machine" as used herein,
typically refers to the hardware...

...transparently when scalability / availability barriers are discovered; *
providing a framework that could be instrumented for **performance
measurements** -alternatively, aspects can be used for this; and/or *
providing a framework that can be...
...non-persistent destinations. This destination configuration type is used
by Query Coordinator 634 to distribute **ad** scoring requests to all
members of an **ad** server cluster 636 for parallel processing. Each **ad**
server 636 knows, from service startup parameters, what set of **ad**
buckets to process. As well, in some system embodiments 174, JGroups is
used for persistent...

...the destination type is used by the observation server 640 to send CPA
updates to **ad** servers 636. Such requests are specific to a set of **ad**
buckets, and may typically be processed by two **ad** servers 636 at a
time, the same as the number of Query Coordinators 634. JMS implements
this with a publish/subscribe topic, to which **ad** servers 636 would
filter the requests based on the **ad** buckets. JGroups typically uses
either multi-point (TCP/IP) or, by defining multiple groups, multi...

...dynamically updatable mapping so that the system 174 can throttle the
server pool easily.

* The **ad** server code preferably executes the message protocol from the
current release and the previous release, whereby the **ad** servers 636
can be upgraded individually.
* Communication between the **ad** servers 636 and the database server is
preferably asynchronous, so that the system 174 can serve **ads** 188, even
when the database is unavailable.

System Advantages. In conventional online **ad** network systems,
advertising entities are typically required to provide expertise in the
input of relevance links, i.e. keywords and phrases, from which
conventional **ad** placement systems provide a limited matching of
relevance to available **ad** space, typically based solely on keyword
matching between the input advertiser keywords and a search...

...a match to keywords and phrases in a publisher page.

As well, in conventional online **ad** network systems, advertising
entities are typically required to provide expertise in bidding on a
limited...

...publisher assets. The enhanced online advertising system 174 greatly simplifies the generation and targeting of **ads** , and provides significantly greater **ad** relevance for served 194 **ads** 188, resulting in **ads** 188 that are more meaningful to consumers USR, more effective for advertisers 72, and thus...

...keyword and/or category "hints" may be utilized if available, they are not required.

An **ad** having a higher rank gets more play, so an advertiser 72 may manually or automatically increase the rank of a desired **advertisement** , by increasing bid price 252 or improving the quality of the **ad** 188.

Furthermore, as described above, the system 174 can automatically generate "catalog **ads** " 188 by taking advertisers product catalogs and automatically generating **ads** 188 from them. This inherently allows the system 174 to rapidly serve millions of **ads** 188, and at much lower cost than alternative networks. The system 174 therefore inherently allows...

...72 to advertise the "long tail" of their product catalogs 462; i.e. thereby providing **ads** 188 even for products 590 that would normally receive little attention. Advertisers 72 conventionally have...

...prohibitively expensive for promoting sales of all products 590. As well, by efficiently providing more **ads** 188, the system 174 can additionally provide more revenue to more diverse publishers 76, since such catalog **ads** are only possible because of the **automated predictive** technology within the enhanced online advertising system 174.

Although the exemplary enhanced online advertising system...

Claim
... one or more advertising sites correspondingly associated with the advertising entities, and one or more **ads** having selectable links from which each of the respective advertising sites can be accessed; means...

...from a user terminal across the network an automated Is request for one or more **ads** associated with a display of one of the publisher pages at the user terminal, the displayed publisher page comprising one or more available **ad** spaces; means for matching the automated **ad** request to at least a portion of analyzed publishing context if available; means for predicting a response to the **ads** by a user at the user terminal, wherein the prediction is it least partially based on any of the analyzed publishing context and the analyzing advertising context of the associated **ads** ; means for automatically determining one or more of the best stored **ads** based on any of a predicted and observed effective impression revenue of the stored creatives; and means for sending one or more of the automatically determined best stored **ads** to the user terminal for integration with the displayed publisher page.

2. The system of...
...estimations of the probability that the actions will occur given a display of the associated **ad** to the user.

4. The system of Claim 1, wherein the user terminal comprises a...

...wherein the assets associated with at least one of the advertising sites comprise any of **ads** and one or more web pages associated with corresponding advertising sites.

11. The system of...

...analyzed portion of the publishing sites comprises a publisher page having at least one available **ad** space.

12. The system of Claim 1, wherein the analyzed portion of the publishing sites further comprises at least one publishing page other than the publisher page having the available **ad** space.

13. The system of Claim 1, wherein the means for analyzing publishing context also...

...the displayed publisher page to a display of an advertiser site corresponding an integrated displayed **ad** upon selection by the user.

16. The system of Claim 15, further comprising: means for...

...advertising entity.   .

17. The system of Claim 15, wherein the determination of at least one **ad** associated the displayed advertiser site is at least partially influenced by one or more tracked...

...analyzing each of the asset records in the catalog file; and means for automatically producing **ads** corresponding to each of the analyzed asset records.

24. A process implemented across a network...

...to the respective advertiser entities; receiving from a user terminal across the network an automated **ad** request for one or more creatives associated with a display of one of the publisher pages at the user terminal, the displayed publisher page comprising one or more available **ad** spaces; matching the automated **ad** request to-at least a portion of analyzed publishing context if available; predicting a response...
...wherein the assets associated with at least one of the advertising sites comprise any of **ads** and one or more web pages associated with corresponding advertising sites.

34. The process of...

...portion of the publishing sites s comprises a publisher page having at least one available **ad** space.

35. The process of Claim 24, wherein the analyzed portion of the publishing sites further comprises at least one publishing page other than the publisher page having the available **ad** space.

36. The process of Claim 24, wherein the step of analyzing the publishing context...

...the displayed publisher page to a display of an advertiser site

corresponding an integrated displayed **ad** upon selection by the user.

39. The process of Claim 38, further comprising the step...

...advertising entity.
40. The process of Claim 38, wherein a ranking of at least one **ad** associated the displayed advertiser site is at least partially influenced by one or more tracked...

...asset; automatically analyzing each of the asset records in the catalog file; and automatically producing **ads** corresponding to each of the analyzed asset records.

47. A process implemented across a network...

...associated with the advertiser campaign; receiving from a user terminal across the network an automated **ad** request for one or more **ads** associated with a display of one of the publisher pages at the user terminal, the displayed publisher page comprising one or more available **ad** spaces; matching the automated **ad** request to at least a portion of the analyzed publishing context; predicting a response to the **ads** by a user at the user terminal, wherein the prediction is it least partially based on any of the analyzed publishing context and the analyzing advertising context of the associated **ads** ; automatically determining one or more of the best stored **ads** based on any of a predicted and observed effective impression revenue of the stored **ads** ; and sending one or more of the ranked selected **ads** to the user terminal for integration with the displayed publisher page.

48. A web page displayable at a user terminal in communication with a central **ad** system across a network, comprising: publisher content; at least one available **ad** space; and at least one **ad** displayed within the available **ad** space, the **ad** associated with an advertising entity; wherein displayed **ads** are selected by the central system, based on an automated contextual analysis of at least...

...associated with the advertising entity.

49. The web page of Claim 48, wherein the displayed **ads** are ranked by the central **ad** system.

50. The web page of Claim 49, wherein higher ranked **ads** are more prominently displayed on the page than lower ranked **ads** .

51. A process implemented across a network having one or more publishing sites correspondingly associated...

...the asset records in the catalog file; storing the analyzed asset records; and automatically producing **ads** corresponding to the analyzed asset records.

52. The process of Claim 51, wherein the assets...

...the fields.

55. The process of Claim 51, wherein the bids correspond to any of **ad**

-based CPA bids and commission-based CPA bids.

56. The process of Claim 51, wherein...

...landing page.

61. The process of Claim 51, further comprising the step of: determining an **ad** format for one or more of the **ads** .

62. The process of Claim 61, wherein the step of determining **ad** formats includes input from any of the advertiser entity, a secondary source, and an internal **ad** template source.

63. The process of Claim 51, further comprising the step of: storing the produced **ads** for use on the network.
64. The process of Claim 63, further comprising the steps of: receiving from a user terminal across the network an automated **ad** request for one or more creatives associated with a display of one of the publisher pages at the user terminal, the displayed publisher page comprising one or more available **ad** spaces, wherein the creatives comprise any of the stored produced **ads** and other stored **ads** provided by any of the same advertising entity and a different advertising entity; matching the automated **ad** request to at least a portion of analyzed publishing context if available; predicting a response...

19/3,K/5   (Item 5 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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01346498   **Image available**
GAME THEORETIC PRIORITIZATION SCHEME FOR MOBILE AD HOC NETWORKS
   PERMITTING HIERARCHAL DEFERENCE
SYSTEME D'ETABLISSEMENT DE PRIORITES THEORIQUES DES JEUX POUR RESEAU AD
   HOC MOBILES PERMETTANT UNE DEFERENCE HIERARCHIQUE
Patent Applicant/Inventor:
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   460, White Plains, New York 10606, US
Patent and Priority Information (Country, Number, Date):
 Patent: WO 200629297 A2-A3 20060316 (WO 0629297)
 Application: WO 2005US32113 20050909 (PCT/WO US2005032113)
 Priority Application: US 2004609070 20040910; US 20045460 20041206
Designated States:
(All protection types applied unless otherwise stated - for applications
2004+)
 AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM
 DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KM KP KR KZ
 LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NG NI NO NZ OM PG PH PL
 PT RO RU SC SD SE SG SK SL SM SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU
 ZA ZM ZW
 (EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LT LU LV MC NL
 PL PT RO SE SI SK TR

**GAME THEORETIC PRIORITIZATION SCHEME FOR MOBILE AD HOC NETWORKS
  PERMITTING HIERARCHAL DEFERENCE**
SYSTEME D'ETABLISSEMENT DE PRIORITES THEORIQUES DES JEUX POUR RESEAU AD
  HOC MOBILES PERMETTANT UNE DEFERENCE HIERARCHIQUE

International Patent Class (v8 + Attributes)
IPC + Level Value Position Status Version Action Source Office:
  G06Q-0040/00 ...
Fulltext Availability:
  Detailed Description
  Claims

Detailed Description
  GAME THEORETIC PRIORfTIZATION SCHEME FOR MOBILE AD HOC NETWORKS
  PERMITTING HIERARCHAL DEFERENCE
  FIE D OF THE INVENTION
  The present invention relates to the field of ad hoe network protocols
  and control architectures.

  BACKGROUND OF THE INVENTION
  A number of fields of...

  ...a mobile telecommunications protocol, such as IETF RFC 3344 (Mobile IP,
  IPv4), or various mobile ad hoc network (MANET) protocols, 2.5G or 3G
  cellular, or other types of protocols. Preferably...bids or proxy bids of
  other bidders. This feature allows bidders to participate in the
  electronic auction without revealing to the other bidders the extent to
  which they are willing to...

  ...I'll". I.:; ii
  and me& Mnw i" " "" ',:' t' I" L@f
  qua lt@ o ad identification transaction usincr an identification
  quality
  score); 6,068,184 (Security card and system for...

  ...and credit collection utiliziner a payment. An electronic monetary
  system provides for transactions utilizing an electronicmonetary system
  that emulates a wallet or a purse that is customarily used for keeping
  money...This enables the bank to maintain an accurate approximation of a
  customer's spending. The frequency of polling messages
  ID 0)
  1 0 is related to the monetary value of transactions...

  ...54 (04/27/1999, System and method for updating security.information in a
  time-based electronic monetary system); 5,901,@29 (05/04/1999,
  Electronic cash implementing method using a tnistee...

  ...article of manufacture for a modular gateway server architecture);

6,003,765 (12/21/1999, **Electronic** cash implementing method with a surveillance
5
. ...
institution. and user apparatus and surveillance institution apparatus...

...theoretic analysis of altruistic behaviour may be imported for consideration as appropriate.

In a mobile **ad** hoc conununications network, a real issue is user defection or noncompliance. For example, where a cost is imposed on a user for participating in the **ad** hoc network, e.g., baftery power consumption, if the anticipated benefit does not exceed the...

...The result of mass defection will, of course, be the instability and failure of the **ad** hoc network itself, leading to decreased utility, even for those who gain an unfair or...

...peer network in which each node has an equal opportunity to gain control over the **ad** hoc network, independent of outside influences. On the other hand, by insulatin the network from...

...understanding of the network behavior in response to a perturbation.

The typical peer-to-peer **ad** hoe network may be extended to the hierarchal case by treating each branch (includincr-sub...
...control over the network for extended periods.

It is noted that, in a multihop mobile **ad** hoc network, if a communication path fails, no further transfers are possible, potentially resulting in...

...turn, leads to a potential exhaustion of resources, and the unavailability of the node for **ad** hoc intermediary use, even for the benefit of the hierarchy. An initial surphis allocation will...

...allocation, potential waste of allocation, and a disincentive to act as an intermediary in the **ad** hoc network. While in a traditional military hierarchy, cooperation can be 43 ....

mandat in Ms...

...be expressed), it fails to respond to "market" forces.

Accordingly, a peer to peer mobile **ad** hoe network suitable for respecting hierarchal orcranization structures is delecration is provided. In this hierarchal...of this system are discussed -in more detail elsewhere in-this specification.
SECOND EMBODIMENT
Multihop **Ad** Hoe Networks require cooperation of nodes which are relatively disinterested in the content being conveyed...

...thus increasing efficiency and avoiding
@7'
aitial availability or disposal.

p
One issue in mobile **ad** hoc networks is accounting for mobility of nodes
and unreliability of communications. In commodities markets...

...A previous scheme proposes the application of game theory in the control
of multihop mobile **ad** hoc networks according to "fair" principles. In
this prior scheme, nodes seeking to control the...

...T Jean-Pierre Hubaux, Nuorlets: a Virtual Currency to
Stimulate Cooperation in Self-Oroanized Mobile **Ad** Hoc Networks,
Technical Report DSC/2001/004, EPFL-DI-ICA, January 2001, incorporated
herein by...

...Michiardi and R. Molva, CORE: A collaborative reputation mechanism to
enforce node cooperation in mobile **ad** hoe networks, In B. Jerman-Blazic
and T. Klobucar, editors, Communications and Multimedia Security, IFIP...

...Sonja Buchegger and Jean-Yves Le Boudec, A Robust Reputation System for
P2P and Mobile **Ad** -hoc Networks, Second Workshop on the Economics of
Peer-to-Peer Systems, June 2004; Po-Wah Yau and Chris J. Mitchell,
Reputation Methods for Routing Security for Mobile **Ad** Hoc Networks;
Frank Kargl, Andreas Klenk, Stefan Schlott, and Micheal Weber. Advanced
Detection of Selfish or Malicious Nodes in **Ad** Hoe Network. The I st
European Workshop on Security'in **Ad** -Hoc and Sensor Networks (ESAS
2004); He, Qi, et al., SORI: A Secure and Objective Reputation-based
Incentive Scheme for **Ad** -Hoc Networks, IEEE
Wireless.Conununications-and-Networking Corif@rence 2004, each of which
is expressly...

...is possible to. include hierarchal deference as a factor in optimization
of a multihop mobile **ad** hoc network, leading to compatibility with
tiered organizations, as well as with shared resources.

GAME THEORY
Use of Game Theory to control arbitration of **ad** hoc networks is well
known. F. P.
Kelly, A. Maulloo, and D. Tan. Rate control...

...the communication medium. Courcoubetis, C., Siris, V. A. and Starnoulis,
G. D. Integration of - 51
AD HOC NETWORKS
An **ad** hoc network is a wireless network which does not require fixed
infrastructure or centralized control...

...node, employing neighboring nodes to forward messages to their
destination. In a
t:1
mobile **ad** hoc network, constraints are not placed on the mobility of
nodes, that is, they can...

...the Commons.. Science, 162:124')-1248, 1968.

Alternate Location: http://dleoffcom/paae95.htm.

In an **ad** hoe network used for conveying real-time information, as might
be the case in a...

...private value results in the maximum likelihood of prospective gain.
APPLICATION OF GAME THEORY TO AD HOC NETWORKS
There are a ni-imber of aspects of. ad hoe network control which may be
adjusted Mi accordance with aame theoretic approaches. An example...

...are a number of known and proven routing models proposed for forwarding
of packets in ad hoc networks. These include Ad Hoc On-Demand
Distance Vector (AODV) Routing, Optimized Link State Routing Protocol
(OLSR), Dynamic Source...

...Mauve,
,to
J. Widmer, and H. Hartenstein. A survey on position-based routincr in
mobile ad hoc networks.

IEEE Network Magazine, 15(6):' 30-3)9, November 2001.

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Cr
Gerla. Scalable routing protocols for mobile ad hoe networks. IEEE
Networks, 16(4):11-2 1, July 2002; D. Johnson, D. Maltz, and Y.-C. Hu.
The dynamic source routing protocol for mobile ad hoe networks, April
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...Lee, W. Su, J. Hsu,. M. Gerla, and R. Bagrodia. A performance comparison
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...Wada, N. Mori, K. Nakano, M. Sengoku, and S. Shinoda. Flooding schemes
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2000. IECON 2000, v. 2,pp.

1129-1 134...

...routing. Request for comments 3)561, Internet Engineering Task Force,
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Boston, 2001 E.: Royer and C.-K. Toh. A review of current routing
protocols for ad hoe mobile wireless networks. IEEE Personal
Communications, 6(2):46-55, April 1999; Holger FdBler, Hannes
Hartenstein, Dieter Vollmer, Martin Mauve, Michael Kdsemann,
Location-Based Routing for Vehicular Ad -Hoc Networks, Reihe Informatik
3/2002, http://citeseer.ist.psu.edu/56003 36.html; J...

...B.

Johnson, Y. C. Hu, and J. Jetcheva. A Performance Comparison of Multi-Hop
Wireless Ad Hoe Network Routinor Protocols.'In Proc. of the ACM/IEEE
MobiCom, October 1998, http://citeseer...

...a battery operated transceiver with limited power availability. Juha
Leino, "Applications of Game Theory in Ad Hoc Network", Master's
Thesis, Helsinki University Of Technology (200')); J. 3 0 Shneidman and
...

...Michiardi and R. Molva. Core: A collaborative reputation mechanism to
enforce node cooperation in mobile ad hoc networks. In Communication

and Multimedia Security 2002 Conference, 2002. This reputation may be evaluated...

...16, 279-320; Moulin, H. and S.

Shenker (I 997). Strategyproof Sharing of Submoduldr-Costs: **Budget** Balance Versus Efficiency, to appear in Economic Theory. www.aciri.org/shenker/cost.ps;-Moulin, Herv6, and Scott Shenker (2001). "Strategyproof Sharing of Submodular Costs: **Budget** Balance versus Efficiency." Economic Theory 18, 511-533; Feigenbaum, Joan, Christos Papadimitriou, Rahul Sami, and...
...David C. Parkes, I st Workshop on the Economics of P21? systems, Strategyproof
Mechanisms for **Ad** Hoc Network Formation, 200')J
- 60 - 61 bidder s EWiWJC@ e-f@a@eftdft @'bWhnner...related communications because it is relatively 3 0 simple and robust, and well suited for **ad** hoc communications in lightly loaded networks. An initial node transmits using an adaptive power protocol...

...more efficient may be employed either directly, or analogy, to the virtual economy of the **ad** hoc network. The ability of nodes to act as market maker and derivative market agents...

...non-compliant nodes are either excluded from the network or at least labeled. While an **automated** clearinahouse which periodically ensures nodal compliance is preferred, a human discretion clearinghouse, for example presented...

...net result, however, is a decided subjective unfairness to lower ranking nodes. In a mobile **ad** hoc network, a real issue is user defection or non-compliance. For example, where a cost is imposed on a user for participating in the **ad** hoc network, e.g., battery power consumption, if the anticipated benefit does not exceed the...
...The result of mass defection will of Course be the-instability and failure of the **ad** hoc network itself. Thus, perceived fairness and net benefit is important for network success, assuming...

...with those of the organization as a whole. Since the oraanization exists outside of the **ad** hoc network, it is generally not unrealistic to expect compliance with the hierarchal attributes both...

...nodes might ordinarily be limited to cellular wireless communications (including mobile cells, e.g., mobile **ad** hoc networks (MANETs)). For a low level node to generate a broadcast using an expensive...

...resources (including, f6r exJdihp1e,-as'ets and credit), and the unavailability of the node for **ad** hoc intermediary use, evenfor the benefit of the hierarchy. An initial surplus allocation will lead...

...allocation, potential waste of allocation, and a disincentive to act as an intermediary in the **ad** hoc network.

In a military system, it is clearly possible to formulate an "engineered" solution...
...employed, which may be licensed or unlicensed.

Various studies have shown that modeled multihop mobile **ad** hoc network architectures tend to have low efficiency over three to five or more hops

...

...that is, retransmission of packets imposes a power cost, then the stability of the mobile **ad** hoc network and cooperation with its requirements will depend on properly incentivizing intermediary nodes to

...

...cost of this additional process must be commensurate with the benefits provided, or else the **ad** hoc network will become unreliable. The incentioves therefore may be, for example unrestricted credits (cash...

...do they value the benefits commensurate with the overall costs, including service fees, hardware, and **ad** hoc cooperative burdens? As such, care must be exercised to define competitive compensation or the...

...a suitable return on investment is mandated.

Many analyses and studies have concluded that voluntary **ad** hoc networks are efficient when the incentives to cooperate with the network goals are aligned...

...in network administration or operation, while taking advantage of the network as a beneficiary, the **promotion** of network availability as an incentive for cooperation is typically itself insufficient incentive to assure...phone or make it unavailable. The user may abuse the service contract, taking advantage of **promotions** or "free" access to the detriment of others. Notably, the user typically has no reasonable...

...licensed spectrum, and if he does, it is a problem outside the scope of the **ad** hoc network issues. While older analog cellular phones provided the 77 user witK-:" 41-i6fiL...

...of the cellular infrastructure, and GPS is a one option to provide this feature.

The **ad** hoc commimications can occur using a licensed or unlicensed band. For example, since we presi...

...that nodes are beyond range of a fixed cellular tower (except the closest node), the **ad** hoc network may reuse licensed bandwidth in the uncovered region. The **ad** hoc communications may also occur in unlicensed spectrum, such as the 2.4 GHz ISM...

...however, remains useful for compensating intermediaries.

CONCLUSION
Game theory is a useful basis for analyzing **ad** hoc networks, and understanding the behavior of complex networks of independent nodes.' By presuming a...

...provides a communications system, method and
1 5 infrastructure. According to one preferred embodiment, an **ad** hoc'. self organizing, cellular radio system (sometimes known as a "mesh network") is provided. Advantageously...or using

calculus to maximize the auxiliary quantity
I logtgo7q
Epiqlo Al All
q
over **AD** ,[, p 344-3)46j. A special feature of the algorithm is the
guaranteed convergence
tn...
...1@ ii @ i .!@....".'.@. '1 l:.ii 'i Ij "::::i@
ii::::if IC ii'".

A decimation in **frequency** alcrorithni makes use of
IKf,IVAE 1j[('Lj U
ari h' (12)
xf.kid I...wavelets, or analyzing wavelets.

Both transforms have another similarity. The basis functions are
localized in **frequency** , making mathematical tools such as power spectra
(how much power is contained in a **frequency** interval) and scalegrams
(to be defined later) useful at picking out **frequencies** and calculating
power distributions.

The most interesting dissimilarity between these two kinds of transforms
is...

...Fourier sine and cosine functions are not.

This localization feature, along with wavelets' localization of
frequency , makes many functions and operators using wavelets "sparse"
when transformed into the wavelet domain. This...
...in images, and removing noise from time series.

jno One way to see the time- **frequency** resolution differences between
the Fourier transform and the wavelet transform is to look at the basis
function coveracre of the time- **frequency** plane.

- 114 ....

In awindowed Fourier transform, where the window is simply a square wave,
the...

...fit a window of a particular width. Because a single window is used for
all **frequencies** in the WFT, the resolution of the analysis is the same
at all locations in the time- **frequency** plane.

An advantacre of wavelet transforms is that the windows vary. In order to
isolate...

...have some very short basis functions. At the same time. in order to
obtain detailed **frequency** analysis, one would like to have some very
lonor basis I 0 functions. A way to achieve this is to have short high-
frequency basis functions and long lowfrequency ones. This happy medium
is exactly what you get with...

...Thus wavelet analysis provides immediate access to information that can
be obscured by other time- **frequency** methods such as Fourier analysis.

Wavelet transforms comprise an infinite set. The different wavelet families...

...the position of a
1 5 signal that is contributing a large component;
4. good **frequency** localization, so researchers can identify signal oscillations; and
5. independence, so that not too many...

...0 In the decomposition, the function is successively convolved with the two filters H (low **frequencies**) and G (high **frequencies**). Each resulting function is decimated by suppression of one sample out of two. The high **frequency** signal is left, and we iterate with the low frequelncy signal. In the reconstruction, we...

...Det.
Vertical Details Diagonal Details.

The wavelet transforin can be interpreted as the decomposition on **frequency** sets with a spatial orientation.

The d trous algorithm
The discrete approach of the wavelet...

...start with the set of scalar products
if
Owi x
2
has a cut-off **frequency** the data are correctly sampled. The data at the resolutionj=1 are.

x
P(-k...

...is an integer. So.

(v) = @i (v) h(2-1 v)
1310 ....'........ ..
The cut-off **frequency** is reduced by a factor 2 at each step, allowing a reduction of the nLunber...

...V, < j Z'r I<
2
and
Vy. Vn
(V n) M
1 5 The **frequency** band is also reduced by a factor 2 at each step. Applying the sampling theorem...

...the array Ti+,. Its inverse FFT gives the image at the scale 21+1. Die **frequency** band is reduced by a factor 2.

6. We incrementj
j @5 nP
7. If...

...we go back to 3).

The use of a scaling function with a cut-off **frequency** allows a
reduction of sampling at each scale, and limits the computing time and
the...are no longer normal after undergoing their respective nonlinear
transformations. The EKF is simply an **ad** hoc state estimator that only
approximates the optimality of Bayes' rule by linearization. Some
interesting...the systems. However, for such purposes as pothole
reporting, positional - 158 accuradi,eA.-Of I' **Ad** 5-iftWis are
preterred. These may be obtained through a combination of techniques, and
therefore...

...detector therefore seeks to detect the characteristic pulsatile infrared
energy.

Police radios employ certain restricted **frequencies** , and in some cases,
police vehicles continuously transmit a signal. While certain laws
restrict interception...

...616; and 6,008,741, The radio used for the communications subsystem can
be radio **frequency** AM, FM, I 0 spread spectrum, microwave, light
(infrared, visible, UV) or laser or maser...

...The communication may be short or medium range onmidirectional, line of
sight, reflected (optical, radio **frequency** , retroreflector designs),
satellite, secure or non-secure, or other modes of communications between
two points...of accident, disablement, or other status of the host
vehicle.

It is noted that at **frequencies** above about 800 NMz, the transmitter
signal may be used as a part of a...

...It may also be useful to transform the data into various domains, such
as time, **frequency** , wavelet, alternate iterated function system, or the
like, for filtering and denoising. Preferably, adaptive thresholds...

...a statistical model governina the wavelet coefficients, and exploiting
its tree structure in the time- **frequency** domain. Each wavelet
coefficient ...Preferably, a spatial division multiplexing scheme is
employed, wherein each band has one or more- **frequency** channels. FEgh
gain, directional antennas are employed, such that there is a high degree
of **frequency** reuse within a local area. However, there will be a
statistical degree of competition for the **frequencies** . In addition,
there will be competition from other competing uses for the band, which
may...

...as various cellular carriers and protocols, 8 02.1 1 hot spots, and a
mobile **ad** -hoc network with sporadic links to fixed infrastructure.
This, in turn, allows a balancing of...

...for the resources, quality of service, cost, and reliability. For
example, by providing a mobile **ad** -hoc supplementation for a fixed
cellular infrastructure, the incidence of dropped calls and service
unavailability...

...the fixed cellular infrastructure providers general ly own licensed

spectrum, the implementation of repeater or **ad** hoc services between mobile units may be coordinated centrally, with mobile-to-mobile communications usina cellular channels, which may be time domain (TDMA), **frequency** domain (FDMA), code division (CDMA and related systems), or other type of band-sharing scheme...

...time service. The fixed infrastructure my also provide coordination of information communication services, local buffering, **ad** multicast f information of general interest.

It is therefore clear that the present..invention.may...

...to transmit-on - - - . -..
multiple channels simultaneously, where channel concrestion is low. The channels are typically **frequency** division. Where such **frequency** division channels are defined, communications may be facilitated by so-called "repeaters", which may itselflocation, **demographics** , origin, time, or other factors. Thus, a motel or restaurant might solicit customers who are...

...motorist or affluent,thesystemmay-also-providedemographiecodes-@-wl-uch-altow-a-custo mized-responseto each unit. Since **demographic** information is personal, and- may indicate traveler vulnerability, this information is preferably not transmitted as an open message and is preferably not decodable by unauthorized persons. In fact, the **demographic** codes may be employed to filter received 1 5 information.- rather than-to broadcast interests...

...simple upgrades and--industry- standard com patibilit-y--.While the preferred embodiment includes a radio **frequency** transceiver-for transmitting event data and receiving event data, embodiments are also possible which either...

...in trucks. In these -cases, a receive-only embodiment may be appropriate. Further, while radio **frequency** communications are preferred, due to their range, data capacity and availability, optical -communications systems 13...

...and the like may also be-employed.in conjunction or in substitution of a radio **frequency** system.

Optical communication systems I3) may employ various detectors, including optical homodyne detectors, or other...

Claim
... The method according to claim 1, wherein said auction allocates communication opportunity within a multihop **ad** hoc communication network.

6 The method according to claim 1, wherein said auction operates according...

01213391
ENHANCED PARIMUTUEL WAGERING
PARI DU TYPE PARI MUTUEL AMELIORE
Patent Applicant/Assignee:
  LONGITUDE INC, 2 Hudson Place, Hoboken, NJ 07030, US, US (Residence), US
  (Nationality), (For all designated states except: US)
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  10004, US
Patent and Priority Information (Country, Number, Date):
  Patent: WO 200519986 A2-A3 20050303 (WO 0519986)
  Application: WO 2004US25434 20040806 (PCT/WO US2004025434)
  Priority Application: US 2003640656 20030813
Designated States:
(All protection types applied unless otherwise stated - for applications
2004+)
  AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM
  DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC
  LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO
  RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
  (EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC NL PL PT RO
  SE SI SK TR
  (OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
  (AP) BW GH GM KE LS MW MZ NA SD SL SZ TZ UG ZM ZW
  (EA) AM AZ BY KG KZ MD RU TJ TM
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International Patent Class (v8 + Attributes)
IPC + Level Value Position Status Version Action Source Office:
  G06Q-0040/00 ...

...US
  G06Q-0099/00 ...
Fulltext Availability:
  Detailed Description

Detailed Description
... costs of capital flunding. Money managers also -frequently use
  derivatives to hedge and undertake economic **exposure** where there are
  inherent risks, such as risks of fluctuation in interest rates, foreign
  exchange...

...such spreads and similar transaction costs.

(5) Settlement and Clearing Costs: The costs of executing, **electronically** booking, clearing, and settling derivatives transactions can be large, sometimes requiring analytical and database software...

...continuous, liquid, and informationally fair markets. Hedging is used by derivatives dealers to reduce their **exposure** to excessive market risk while making transaction fees to cover their cost of capital and...

...to synthesizing the financial derivatives. Similarly, U.S. Pat. No. 5,794,207 proposes an **electronic** means of matching buyers'bids and sellers'offers, without explaining the'natuie of the economic...way, profit and loss can be realized on an evolving basis (limited only by the **frequency** and length of the periods), enabling traders to achieve the same or perhaps higher **frequency** of trading and hedging than available in traditional markets.

If desired, an issuer such as...all states of events of economic significance, and including over varying time periods;
5. reduced **exposure** of the exchange to credit risk;
6. increased availability of information on credit risk and...

...options and other derivatives, without conventional sellers;
1 1. increased data generation; and
12. reduced **exposure** of the exchange to market risk.

I 0 Other additional embodiments include features for an...the Richter scale). The trading period could also close after a certain volume, amount, or **frequency** of trading is reached in a respective auction or-market.

The observation period can be...

...embodiments of the present invention, traders may be able to realize profits and at varying **frequencies** , including more frequently than daily.

(b) Market Efficiency and Fairness: Market prices reflect, among other...

...traders in the exchange as counterparties, effecting a mutualization of counterparties and counterparty credit risk **exposure** . Each trader therefore assumes credit risk to a 15. portfolio of counterparties rather than to...short option position in traditional markets represents a potentially unlimited liability.

investment since the downside **exposure** can readily exceed the option premium and is, in theory, unbounded. Importantly, a group of...

...on average (and in all but exceptionally rare cases), less than if there were an **exposure** to a single counterparty as is frequently the case in traditional markets. In other words...call option.

If in this Example 3. 1.1 a trader desired to hedge his **exposure** to extreme outcomes 'in MSFT stock, then the trader could invest in states at each...the money. This indicates that traders often expect the distribution of prices to have greater **frequency** -or mass at the extreme observations than predicted according to lognormal distributions.

Frequently, this effect...

...Claim Expiration
Trading Time: I day
Duration from TED: 5 days
Coupon: 5.5%
Payment **Frequency** : Semiannual
Daycount Basis: Actual/Actual
Dividends Payable over Time Horizon: 2.75 per 100 on...

...methods of the present invention, the indicative returns are calculated
using historical data on the **frequency** of the occurrence of these
defined states. In this example, a transaction fee of I...

...order to hedge that risk. For example, in this Example, if a trader has
significant **exposure** to the A- rated bond issue described above, the
trader could want to hedge the...

...every investor that takes a position in equities, foreign exchange, or
fixed income will have **exposure** to economic forces driving these asset
prices, either by accident or design. Accordingly, market participants...
for DBAR contingent claims on earnings depicted above, a trader with a $5
million notional **exposure** to Microsoft can buy a string of digital call
options, as follows.

Strike Prenflum Price...

...against an earnings shortfall that may trigger credit downgrades. Fixed
income managers worried about potential **exposure** to credit downgrades
from reduced corporate earnings can use DBAR contingent claims,
including, for example...

...as follows.

Real Asset Index: Colliers ABR Manhattan Office Rent Rates
Bloomberg Ticker: COLAMANR
Update **Frequency** : Monthly
Source: Colliers ABR, Inc.

Announcement Date: 7/31/99
Last Announcement Date: 6/30...

...DBAR contingent claims based on rig counts could enable suppliers,
producers and drillers to hedge **exposure** to sudden changes in energy
prices and could provide a valuable risk-sharing device.

For...

...termination criteria, etc).

Asset Index: Baker Hughes Rig Count U.S. Total
Bloomberg Ticker: BAKETOT
 Frequency : Weekly
Source: Baker Hughes, Inc.

Announcement Date: 7/16/99

Last Announcement Date: 7/9...

...information.

Asset Index: FNMA Conventional 30 year One-Month Historical
Aggregate Prepayments
Coupon: 6.5%
Frequency : Monthly
Source: Bloomberg
Announcement Date: 8/1/99
Last Announcement Date: 7/1/99
Expiration...

...from hurricane damage.

Event: PCS Eastern Excess $5 billion Index
Source: Property Claim Services (PCS)
Frequency : Monthly
20; Announcement Date: 10/1/99
Last Announcement Date: 7/1/99
Last Index...

...In preferred embodiments of groups of DBAR contingent claims related to
propertycasualty catastrophe losses, the **frequency** of claims and the
distributions of the severity of losses are assumed and convolutions are

...

...returns over the distribution of defined states. This can be done, for
example, using compound **frequencyseverity** models, such as the
Poisson-Pareto model, familiar to those of skill in the art...
...in demand-based trading catastrophe risk products gain the ability to
adjust risk protection or **exposure** to a desired level. For example, a
reinsurance company may wish to purchase protection at...0
If, at some point during the trading period, the trader desires to hedge
his **exposure** , the investment in state 2 to do so is calculated as
follows.

al * T2
a2...vs. forward contracts), allows banks to precisely define the limits
of their - 133 counterparty credit **exposure** and, hence, to trade with
local market institutions, increasing participation and liquidity.

Expmple 3 23...GM contingent claim, and a total profit of three dollars.
In step (2), many such **scenarios** are **generated** so that a resulting
distribution of profit and loss is obtained. The resulting profits and...

...for which the trader could be 95% confident would not be exceeded,
provided that enough **scenarios** have been **generated** to provide an
adequate representative sample. This number could be used as the CAR
value...

...inability of a given trader to repay a margin loan or otherwise cover a
loss **exposure** . For example, a trader may have invested $1 in a given
152 state for a...

...amount of margin used to make each trade or the amount - 152 of

potential loss **exposure** from trades with profit and loss scenarios
comparable to sales of options in conventional markets...

...of the VAR methodology previously describedJs scaled by (a) the
percentage of margin [or loss **exposure**] for each investment; (b) the
probability of default for the trader; and (c) the percentage...

...regard to credit-related events that does not typically suffer from a
lack of statistical **frequency** . Two methods can be used in this
preferred approach. First, data can be obtained that provide greater
statistical confidence with regard to credit-related events. For example,
expected default **frequency** data can be purchased from such companies as
KMV Corporation. These data supply probabilities of...losing investments.
The product represents an estimated loss rate due to investor defaults.
Many such **scenarios** can be **generated** so that a resulting distribution
of credit-related expected losses can be obtained. The average...

...which a given trader could be 95% confident would not be exceeded,
provided that enough **scenarios** have been **generated** to provide a
statistically meaningful sample. In preferred embodiments; the selected
value in the distribution...

...analyzed.

The amount of margin -to be repaid for the losing trades, or the loss
exposure for investments with profit and loss scenarios comparable to
digital option "sales," can then be...an advantage of the multistate
allocation methods of the present invention is the ability to **generate**
scenarios of profits and losses ("P&L') comparable to the P&L scenarios
obtained from selling...

19/3,K/7 **(Item 7 from file: 349)**
DIALOG(R)File 349:PCT FULLTEXT
(c) 2007 WIPO/Thomson. All rts. reserv.

01199064 **Image available**
USING ENHANCED AD FEATURES TO INCREASE COMPETITION IN ONLINE
ADVERTISING
UTILISATION DE CARACTERISTIQUES PUBLICITAIRES AMELIOREES POUR
RENFORCER LA
   CONCURRENCE DANS LA PUBLICITE EN LIGNE
Patent Applicant/Assignee:
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Designated States:

USING ENHANCED AD FEATURES TO INCREASE COMPETITION IN ONLINE ADVERTISING

English Abstract
 ...other for advertising space. There may be multiple advertising
 positions available, where the placement of **advertisements** is
 determined by an auction. To encourage competition, some **advertisements**
 may be presented with enhanced features. These enhanced features create
 an incentive for which advertisers...

Detailed Description
 USING ENHANCED **AD** FEATURES TO INCREASE COMPETITION
 IN ONLINE ADVERTISING
 ' 1, BACKGROUND OF THE INVENTION
 ' 1,1 FIELD...

...THE INVENTION
 The present invention concerns advertising..In particular, the present
 invention concerns the way **ads** are to be presented to their audience
 and using enhanced presentation features to 1 0 increase competition to
 produce better **advertisements** and markets.

' L2 RELATED ART
 Advertising using traditional media, such as television, radio,
 newspapers and 1 5 magazines, is well known. Unfortunately, even when
 armed with **demographic** studies and entirely reasonable assumptions
 about the typical audience of various media outlets, advertisers
 recognize that much of their **ad** **budget** is simply wasted. Moreover, it
 is very difficult to identify and eliminate such waste.

 Recently...
 ...as conduits to reach a large audience. Using this first approach, an
 advertiser inay place **ads** on the home page of the New York Times
 Website, or the USA Today Website, for example. 1h another strategy, an

advertiser may attempt to target its **ads** to more narrow niche audiences, thereby increasing the likelihood of a positive response by the audience. For example, an agency promoting tourism in the Costa Rican rainforest might place **ads** on the ecotourism-travel subdirectory of the Yahoo Website. An advertiser will normally determine such targeting manually.

Regardless of the strategy, Website-based **ads** (also referred to as "Web **ads** ") are often presented to their advertising audience in the form of "banner **ads** " - i.e., a rectangular box that includes graphic components. When a member of the advertising...

...64viewer" or "user" in the Specification without loss of generality) selects one of these banner **ads** by clicking on it, embedded hypertext links typically direct the viewer to the advertiser's Website. This process, wherein the viewer selects an **ad** , is commonly referred to as a 4 6click-thiough" ("Click-through" is intended to cover...

...The ratio of the number of click-throughs to the number of impressions of the **ad** (i.e., the number of times an **ad** is displayed) is commonly referred to as the "click-through rate" of the **ad** . A "conversion" is said to occur when a user consummates a transaction related to a previously served **ad** . What constitutes a conversion may vary from case to case and can be determined in...

...it may be the case that a conversion occurs when a user clicks on an **ad** , is referred 0 to the advertiser's Web page, and consummates a purchase there before...

...that Web page.

Alternatively, a conversion may be defined as a user being shown an **ad** , and making a purchase on the advertiser's Web page within a predetermined time (e...

...possible. The ratio of the number of conversions to the number of impressions of the **ad** (i.e., the number of times an **ad** is displayed) is commonly referred to as the conversion rate, If a conversion is defined to be able to occur within a predetermined time since the serving of an **ad** , one possible definition of the conversion rate might only consider **ads** that have been served more than the predetermined time in the past.

Despite the initial promise of Website-based **advertisement** , there remain several problems with existing approaches. Although advertisers are able to reach a large audience, they are frequently dissatisfied with the return on their **advertisement** investment.

Similarly, the hosts of Websites on which the **ads** are presented (referred to as "Website hosts" or " **ad** consumers") have the challenge of maximizing **ad** revenue without impairing their users' experience. Some Website hosts have chosen to place advertising revenues...

...One such Website is "Overture.com", which hosts a so-called "search engine" service returning **advertisements** masquerading as "search results" in response to user queries.

The Overture.com Website permits advertisers to pay to position an **ad** for their Website (or a target Website) higher up on the list of purported search results. If such schemes where the advertiser only pays if a user clicks on the **ad** (i.e., cost-per-click) are implemented, the advertiser lacks incentive to target their **ads** effectively, since a poorly targeted **ad** will not be clicked and therefore will not require payment. Consequently, high cost-per-click **ads** show up near or at the top, but do not necessarily translate into real revenue for the **ad** publisher because viewers don't click on them. Furthermore, **ads** that viewers would click on are further down the list, or not on the list at all, and so relevancy of **ads** is compromised.

In some current auction-based online advertising systems, there can be multiple advertising positions on each Web page displayed. All **ads** typically have the same formatting, and are distinguished only by their position on the Web...

...positions near the top of the 0 Web page are typically the most desirable, since **ads** with such placement tend to garner the attention of more end users. However, the difference in value, assumed by advertisers, between various **ad** positions might not be too great. Accordingly, although advertisers might prefer that their **ads** have a higher position, they may nonetheless be content if their **ad** appears in a lower position. If **ad** positioning is based, at least is part, on price, advertisers might be content to pay...

...price for a lower position. If placement is based, at least in part, on some **performance measure** of the **ad** , advertisers might be content if the performance of their **ad** isn't optimized.

Thus, if advertisers don't perceive a sufficient advantage to higher placement positions, they might be content to pay less or to have **ads** with merely adequate performance. If the positioning is based, at least in part, on a...

...e.g., a rate of consummated purchases at their Website for users that select their **ad**), the advertiser might not be terribly motivated to improve their Website or e-commerce user...

...customer service.

As a result, end users may receive less focused and less rzle@@vant **ads** @ and poSsibly poorer e-commerce experiences. h/foreover, advertisers may be hurt by their own...

...need for niore effective advertising using interactive media and services, including a need to serve **ads** in a manner that increases their relevance to audience members, and/or their economic value to an advertiser and/or to an **ad** system.
' 2, SUMMARY OF THE INVENTION
The present invention provides a more effective advertising system that applies enhanced features (which presumably enhance the performance of the **ads**), selectively, to **ads** to increase the (actual or perceived) performance differentiation of **ads** . Moreover, the policies under which enhanced features are applied to **ads** may be used to motivate

advertisers to (i) improve their **ads** , (ii) improve their Websites, (iii) better focus their **ad** campaign, and/or (iv) increase their **ad budget** .

' 3, BRIEF DESCRIPTION OF THE DRAWINGS
Figure 1 is a high-level diagram showing parties...

...to apply, 1 5 selectively, one or more enhanced presentation features to one or more **ads** , in a manner consistent with the present invention.

Figure 5 illustrates exemplary **ad** information that may be associated with an **ad** .

Figure 6 illustrates exemplary document information that may be associated with a document with which one or more **ads** are to be served. Figure 7 is a high-level block diagram of apparatus that...

...message fon-nats and/or data structures for selectively applying enhanced presentation features to online **advertisements** . It is believed that doing so will server to increase competition to produce better **advertisements** and markets. The following description is presented to enable one skilled in the art to...

...1 is a high level diagram of an advertising environment. The environment may include an **ad** entry, maintenance and delivery system 120. Advertisers I 10 may directly, or 1 5 indirectly, enter, maintain, and track **ad** information in the system 120. The **ads** may be in the form of graphical **ads** such as so-called banner **ads** , text only **ads** , image **ads** , audio **ads** , video **ads** , **ads** combining one of more of any of such components, etc. The **ads** may also include embedded information, such as a link, meta information, and/or machine executable instructions.

Ad consumers 130 may submit requests for **ads** to, accept **ads** responsive to their request from, and provide usage information to, the system 120. Although not...

...usage information (e.g., whether or not a conversion or click-through related to the **ad** occurred) to the system 120. This usage information may include measured or observed user behavior related to **ads** that have been served.

One example of an **ad** consumer 130 is a general content server that receives requests for content (c.g., arUclec...

...response to, or otherwise services, the request. The content server may submit a request for. **ads** to the system 120. Such an **ad** request may include a number and/or type of **ads** desired. The **ad** request may also include content request information. This information may include the content itself (e...

...etc.

The content server may combine the requested content with one or more of the **advertisements** provided by the system 120. This combined information including the content and **advertisement** (s) is then forwarded towards the end user that requested the content, for

presentation to the viewer. Finally, the content server may transmit information about the **ads** and how, when, and/or where the **ads** are to be rendered (e.g., position, click-through or not, impression time, impression date...

...be provided back to the system 120 by some other means.

Another example of an **ad** consumer 130 is a search engine. A search engine may receive queries for search results...

...of (e.g., ten) search 5 results.

The search engine may submit a request for **ads** to the system 120. The request may include a number of **ads** desired. This number may depend on the search results, the amount of screen or page space occupied by the search results, the size and shape of the **ads** , etc. In one embodiment, the number of desired **ads** will be from one to ten, and preferably from three to five. The request for **ads** may also include the query (as entered or parsed), information based on the query (such...

...etc.

The search engine may combine the search results with one or more of the **advertisements** provided by the system 120. This combined information including the search results and adve@tisement...
...for presentation to the user. Preferably, the search results are maintained as distinct from the **ads** , so as not to confuse the user between paid **advertisements** and presumably neutral search results.

The search engine may transmit information about the **ad** and when, where, and/or how the **ad** was to be rendered (e.g., position, click-through or not, impression time, impression date...

...provided back to the system 120 by some other means.

Yet another example of an **ad** consumer 130 is an e-mail server. The e-mail server may submit a request for **ads** to the system 120. The request may include a number of **ads** desired.

The request for **ads** may also include e-mail information. Such information may include, for example, body text from...

...The e-mail server may combine the e-mail with one or more of the **advertisements** provided by the system 120. This combined information including the e-mail and **advertisement** (s) may then be presentation to a user, such as a recipient or a sender. Finally, the e-mail server may transmit information about the **ad** and how the **ad** was to be rendered (e.g., position, click-through or not, impression time, impression date, size, etc.) back to the system 1 5 120.

' 4,1,2 EXEMPLARY **AD** El
TTEY, MAINTENANCE Al
TD
DELIVERY ENVIRONMENT
Figure 2 illustrates an exemplary **ad** system 120' in which, or with which, the present invention may be used. The exemplary **ad** system 120'

may include an inventory system 210 and may store **ad** information 205 and usage information 245. The exemplary system 120' may support **ad** information entry and management operations 215, campaign (e.g., targeting) aossistance operations , 220, accovnting and billing operations 225, **ad** serving operations 230, relevancy determination operations 235, optimization operations 240, relative presentation attribute assignment (e...

...result interface operations 260.

Advertisers I 10 may interface with the system 120' via the **ad** information entry and management operations 215 as indicated by interface 216. **Ad** consumers 130 may interface with the system 120' via the **ad** serving operations 230 as indicated by interface 231. **Ad** consumers 130 and/or other entities (not shown) may also interface with the system 120

...

...advertiser (e.g., a unique email address, a password, billing information, etc.). A "campaign" or " **ad** campaign" refers to one or more groups of one or more **advertisements** , and may include a start date, an end date, **budget** information, geo-targeting information, syndication information, etc. For example, Honda may have one advertising campaign...

...campaign for its motorcycle line. The campaign for its automotive line have one or more **ad** groups, each containing one or more **ads** . Each **ad** group may include a set of keywords, and a maximum cost bid (cost per click-though, cost per conversion, etc.). Alternatively, or in addition, each **ad** group may include an average cost bid (e.g., average cost per click-through, average...

...0 average cost bid may be associated with one or more keywords. As stated, each **ad** group may have one or more **ads** or "creatives" (That is, **ad** content that is ultimately rendered to an end user.). Naturally, the **ad** information 205 may include more or less information, and may be organized in a number of different ways.
The **ad** information 205 can be entered and managed via the **ad** information entry and 5 management operations 215. Campaign (e.g., targeting) assistance operations 220 can be employed to help advertisers 1 10 generate effective **ad** campaigns. For example, the campaign assistance operations 220 can use information provided by the inventory

...

...in the context of advertising for use with a search engine, may track all possible **ad** impressions, **ad** impressions already reserved, and **ad** impressions available for given keywords. The **ad** serving operations 230 may service requests for **ads** from **ad** consumers 130. The **ad** serving operations 230 may use relevancy determination operations 235 to determine candidate **ads** for a given request. The **ad** serving operations 230 may then use optimization operations 240 to select a final set of one or more of the candidate **ads** . Finally, the **ad** serving operations 230 may use relative presentation attribute, (e.g., position) assignment operations 250 Lo order the presentation of the **ads** to be returned. The fraud detection operations 255 can be used to reduce fraudulent use...

...Finally, the results interface operations 260 may be used to accept

result information (from the **ad** consumers 130 or some other entity) about an **ad** actually served, such as whether or not click-thiough occurred, whether or not conversion occurred...

...or service was initiated or consummated within a predetermined time from the rendering of the **ad**), etc. Such results information may be accepted at interface 261 and may include information to identify the **ad** and time the **ad** was served, as well as the associated result.

Various embodiments of the system 120 may...

...261,294 (incorporated herein by reference), entitled "ACCENTUATING TERMS OR FEATURES OF INTEREST IN AN **ADVERTISEMENT** ", filed on September 30, 2002 and listing Nina Marie Kim as the inventor;
(ii) U...

...Application Serial No. 60/439,354 (incorporated herein by reference), entitled "METHOD AND APPARATUS FOR **ESTIMATING ELECTRONIC** ADVERTISING INVENTORY", filed on January 10, 2003 and listing 0 Magnus Sandburg, Eric Veach, John...
...No. 10/314,427 (incorporated herein by reference), entitled "METHODS AND APPARATUS FOR SERVING RELEVANT **ADVERTISEMENTS** ", filed on December 6, 2002 and listing Jeffrey Dean, Georges Harik and Paul Bucheit as...

...U.S. Patent Application Serial No. 10/375,900 (incorporated herein by reference), entitled "SERVING **ADVERTISEMENTS** BASED ON CONTENT", filed on February 26, 2003 and listing Darrell Anderson, Paul Bucheit, Alex...

...No. 10/1 12,656 (incorporated herein by reference), entitled "METHODS AND APPARATUS FOR ORDERING **ADVERTISEMENTS** BASED ON PERFORMANCE INFORMATION", filed on March 29, 2002 and listing Jane Manning, Salar Kamangar...

...No. 10/1 12,654 (incorporated herein by reference), entitled "NIETHODS AND APPARATUS FOR ORDERING **ADVERTISEMENTS** BASED ON PERFORMANCE INFORMATION AND PRICE INFORMATION", filed on March 29, 2002 and listing Salar...

...incorporated herein by reference), entitled "AUTOMATED PRICE MAINTENANCE FOR USE WITH A SYSTEM IN WHICH **ADVERTISEMENTS** ARE RENDERED WITH RELATIVE PREFERENCE BASED ON PERFORMANCE INFORMATION AND PRICE 1 0 INFORMATION", filed...

...incorporated herein by reference), entitled "AUTOMATED PRICE MAINTENANCE FOR USE WITH A SYSTEM IN WHICH **ADVERTISEMENTS** ARE RENDERED WITH RELATIVE PREFERENCES", filed on January 10, 2003 and listing Eric Veach and...

...Patent Application Serial No. 101419,692 (incorporated herein by reference), entitled "Determining Contextual Information for

Advertisements and Using Such Determined Contextual Information to Suggest Targeting Criteria and/or In The Serving of **Advertisements** ", filed on April 21, 2003, and listing Amit Singhal, Mehran Sahami, Amit Patel, and Steve...

...10/445,376 (incorporated herein by reference), entitled "SCORING, MODIFYING SCORES OF, AND/OR FILTERING **ADVERTISEMENTS** USING ADVERTISER INFORMATION", filed on May 23, 2003, and listing Jam, h4anning, Salor A i to. Kaniangar and Eric Vtac-h as inventors.
' 4,1,3 DEFE
TITIO)TTS)
Online **ads** , such as those used in the exemplary systems described above with reference to Figures I...

...be specified by an application and/or an advertiser. These features are referred to as " **ad** features" below. For example, in the case of a text **ad** , **ad** features may include a title line, **ad** text, executable code, an embedded link, etc. In the case of an image **ad** , **ad** features may additionally include images, etc. Depending on the type of online **ad** , **ad** features may include one or more of the following: text, a link, an audio file, a video file, an image file, executable code, embedded information, etc.

When an online **ad** is served, one or more parameters may be used to describe how, when, and/or where the **ad** was served. These parameters are referred to as "serving parameters" below. Serving parameters may include...

...or more of the following: features of (including information on) a page on which the **ad** is served (including one or more topics or concepts determined to be associated with the...
...directory structure, etc.), a search query or search results associated with the serving of the **ad** , a user characteristic (e.g., their geographic location, the language they use, the type of...

...or affiliate site (e.g., America Online, Google, Yahoo) that initiated the request that the **ad** is served in response to, an absolute position of the **ad** on the page on which it is 1 5 served, a position (spatial or temporal) of the **ad** relative to other **ads** served, an absolute size of the **ad** , a size of the **ad** relative to other **ads** , a color of the **ad** , a number of other **ads** served, types of other **ads** served, time of day served, time of week served, time of year served, etc. Naturally...

...be used in the context of the invention.

Although serving parameters may be extrinsic to **ad** features, they may be associated with an **ad** as conditions or constraints. When used as serving conditions or constraints, such serving parameters are...

...constraints". For example, in some systems, an advertiser may be able to specify that its **ad** is only to be served on weekdays, no lower than a certain position, only to...
...certain location, etc. As another example, in some systems, an advertiser may specify that its **ad** is to beserved on] y if a page or P ∨ rh query includes certain keywords or phrases.

" Ad infon-nation" may include any combination of ad features, ad serving constraints, information derivable from ad features or ad serving constraints (referred to as " ad derived infonnation"), and/or information related to the ad (referred to as " ad related information"), as well as an extensions of such information (e.g., information derived from ad related information).

A "document" is to be broadly interpreted to include any machine-readable and...

...content (e.g., e-mail fields and associated data, HTML tags and associated data, etc.). Ad spots in the document may be defined by embedded information or instructions. In the context...

...documents to which the instant document links.

A document may include one or more "available ad spots". Such available ad spots may be predetermined and be an inherent part of the document, may be subject to change, and/or may be determined as the document is being served. An ad consumer 130 may request ads from an ad server 120 to fill some or all of such available ad spots, An ad spot may b(,-:, abic to accommodate different type of ads , but may specify a certain type of ad .

Content from a document may be rendered on a "content rendering application or device,". Examples...

...generate one or more enhanced feature eligibility scores 330 for each of one or more ads based on information 320 about the ads . Enhanced feature application operations 340 may accept one or more ads (or ad identifiers), each having one or more enhanced feature eligibility scores 330, and may determine whether or not to apply various enhanced features to each of the ads based on their scores using an enhanced feature application 1 0 policy 350. It 340 may also use information 360 about a document with which the ads will be served in its determination.

Possible enhanced presentation features for ads may include one or more of the following: (i) larger ad size; (ii) louder ad volume; (iii) brighter or more vivid ad display; (iv) larger ad font size; (v) emphasizing font types (unique font styles, bolding, italics, underlining, 1 5 flashing...

...content (e.g., longer temporally, more text, etc.); (vii) enhanced color schemes; (viii) animation (within ad and/or within document); (ix) video; (x) sound; (xi) sound effects; (xii) persisting, or lasting...

...interactivity, etc. Other enhanced features are possible. Generally, enhanced features improve the performance of an ad .

'4,2,1...used to determine whether or not to apply one, or more enhanced features to ail ad , in a manner consistent with the present invention. One or more enhanced feature eligibility scores for the ad is determined (or accepted if already determined). (Block 4 1 0) Then, it is determined...

...s) (Block 420) before the method 400 is left (Node 430).

'4,2,2 EXEMPLARY AD INFORMATION

Figure 5 illustrates exemplary ad information 500 that may be associated with an ad . As shown, the ad information may include ad content information (e.g., one or more of text information, image information, video information, audio information, executable information, link information, etc.) 510, ad targeting (i.e., ad serving constraints such as keywords, geolocation, etc., for example) information 520, advertiser information 530, price information 540, ad performance information 550, and/or enhanced feature preferences 560. Such information 520, 530, 540, 550 and/or 560 may be associated with an ad , but alternatively may 0 be associated with some set of ads such as an ad group, or an ad campaign for example.

In accordance with one embodiment of the present invention, the ad information 500 includes enhanced feature preferences 560. For example, instead of relying on some measure...

...5 to specify which enhanced feature or features it prefers to have applied to its ad . For example, suppose ads with flashing text in bold on a brightly colored background with a chaser-light border...

...custom suit tailor specializing in conservative business suits for example, might well prefer more restrained ads in keeping with a more conservative image. Enhanced feature preferences allow an advertiser to customize...

...stated preference with regard to one or more enhanced features does not guarantee that the ad will be entitled to be rendered with such enhanced features.)

'4,2.3 E.ZEIAFLAF...

...document information 600 that may be associated with a document with which one or more ads are to be served. The document information may include, among other things, a total number of ad spots available, restrictions, if any, on enhanced features to be applied to ads served with the document, etc.

'4,2,4 EXEMPLARY TECHNIQUES FOR
DETERMINING ENHANCED FEATURE
ELIGIBILITY SCORE(S)

Referring back to block 410 of Figure 4, for a given ad , the enhanced feature eligibility score(s) may be determined using, perhaps among other things, (i) price information associated with the ad , (ii) performance information associated with the ad , and/or (iii) quality information about an advertiser associated with the ad . Such information may be generally considered to be
ad information. (Recall, e.g., Figure 5.)
0 By way of example, the price information may...
...the following.

(a) an amount that an advertiser has agreed to pay each time the ad is rendered; (b) a maximum amount that an advertiser has expressed that it is willing to pay each time the ad is rendered; (c) an amount that an advertiser has agreed to pay each time the ad is rendered and selected;

(d) a maximum amount that an advertiser has expressed that it is willing to pay each time the **ad** is 5 rendered and selected; (e) an average over time of the amount that the advertiser has agreed to pay each time the **ad** is rendered and selected; (f) an average over time of the maximum amount that the advertiser has expressed that it is willing to pay each time the **ad** is rendered and selected; (g) an amount that the advertiser has agreed to pay each time the **ad** is rendered and a conversion, associated with the **ad**, occurs; (h) a maximum amount that the advertiser has expressed that it is willing to pay each time the **ad** is rendered and a conversion, associated with the **ad**, occurs; (i) cost per selection information; 0) cost per conversion information; (k) an average of...

...time; etc.

The performance information may be a measure of user interest in the associated **advertisement**. For e,@:ample, performance information irtay be a function of one or more, of the following: (a) a click-through rate of the associated **advertisement**, (b) user ratings of the **advertisement**, (c) focus group ratings of the **advertisement**, (d) a measurr.- of user interest for the **advertisement** weighted for a size (or some other enhanced feature) of the **advertisement** relative to that of other **advertisements**, (e) a measure of user interest for the **advertisement** weighted for past positions of the **advertisement** relative to those past positions of other **advertisements**, (f) expected user interest in the **advertisement**, (g) a time needed to render the **advertisement** relative to that needed to render other **advertisements**, (h) a measure of user interest for the **advertisement** weighted for a media type of the **advertisement**, (i) a conversion rate associated with the **advertisement**, etc. The performance information may include estimates of user interest in the associated **advertisement**.

The advertiser information may include advertiser quality information. Advertiser quality information may include one or...

...which may indicate a fraudulent lack of intent to pay); and 0) abnormally high advertising **budget** (which may indicate a fraudulent lack of intent to pay).
Various ways of determining a...

...U.S. Patent Application No. 10/1 12,656, entitled "METHODS AND APPARATUS FOR ORDERING **ADVERTISEMENTS** BASED ON PERFORMANCE INFORMATION", filed on March 29, 2002 and listing Jane Manning, Salar Arta...

...Application No. 10/445,376, entitled "SCORE TG, MODIFYING SCORES OF, AI'%fTD/0R FILTERING **ADVERTISEMENTS** USING ADVERTISER INFORMATION," filed on May 23, 2003 and listing Jane Manning, Salar Karnangar, and...

...may also reflect some measure of the relevance (e.g., an IR score) of the **ad**.

In one embodiment of the present invention, a single enhanced feature eligibility score is determined for a given **ad**. In another embodiment of the present invention, more than one enhanced feature eligibility

score are determined for each ad . For example, an ad may have an enhanced feature eligibility score determined for (i) each enhanced feature permitted on...

...TECHNIQUES FOR DETERMINING WHETHER OR NOT TO APPLY ONE OR MORE ENHANCED FEATURES TO AN AD USING, AT LEAST, 0 ITS ONE OR MORE ENHANCED FEATURE ELIGIBILITY SCORES

Referring back to block 420 of Figure 4, for a given ad , it is detennined whether or not to apply one or more enhanced features to the ad using, at least, one or more determined enhanced 5 feature eligibility scores. One or more...

...also be a function of document restrictions, advertiser preferences, and/or other scores of competing ads , etc. Thus, whether or not to apply enhanced features to an ad may be performed in multiple stages. For example, it may first be determined whether or not the ad is "eligible" to be presented with enhanced features (e.g., using at least the eligibility score(s) of the ad). Then it can be determined whether or not the enhanced features will, in fact, be applied to the ad (e.g., based on enhanced feature eligibility score(s) of other ads , document restrictions, and/or policies, etc.).

In one embodiment of the invention, a single enhanced feature eligibility score is determined for a given ad . Whether or not to apply one or more enhanced features, or one or more enhanced...

...one embodiment, this score may be decreased as the enhanced features are applied to the ad .

In another embodiment of the invention, different enhanced feature eligibility scores are determined for a given ad . Whether or not to apply one or more enhanced features, or one or more enhanced...

...the context of the present invention, no input devices, other than those needed to accept ad information, policy infon-nation, and document information, and possibly tho3e for system administration and maintenance ...

...context of presentation ordering operation(s), no output devices, other than those needed to communicate ads and any enhanced features to be applied to such ads , and possibly those for system administration and maintenance, are needed.

' 4,2*7 ALTERNATIVES AND...

...1 NORMALIZING PERFORMANCE INFORMATION TO REMOVE INFLUENCE OF ENHANCED FEATURES

Since the performance of an ad may be (and indeed is expected to be) influenced by the application of enhanced features...

...or more enhanced features is determined using, in some way, such past performance of the ad , it may be 0 desirable to remove the influence that the prior application of enhanced features had on the ad 's performance.

For example, consider a document in which two **ads**, **ad** A and **ad** B, are to be served.

Assume that only one of the **ads** will be permitted to be rendered with bold text and a color background (e.g., due to a document restriction or some policy). Suppose further that **ad** A has 5 been rendered in the past in with bold text and a color background, and has a click-through rate of 0.30, and that **ad** B has been rendered in the past with a normal text and a white background...

...bold type and color background will be based solely on click-through rate of the **ad**. Although **ad** A may have a better click-through rate than **ad** B, some of its performance may very well be attributable to the fact that it was rendered in bold text with a color background in the past, while **ad** B was not. It may turn out that if the performance of **ad** A were normalized to remove the influence of these enhanced features, it would only have an expected click-through rate of 0 Accordingly, in this example, **ad** B might "win" the right to be rendered with bold typeface and with a color background, even though **ad** A has had better actual performance.

'4o2,7,2 SE R1 Frj1EFEU1E1
TCE1413
YVAITH RESFECT...

...others, and might even want to avoid the application of certain enhanced features to its **ad** or **ads**.

Referring back to Figure 5, the enhanced feature preference information 560 may reflect or encode...

...Alternatively, or in addition, certain enhanced features might be implicitly excluded. For example, if the **ad** content information 510 does not include any video information, it will not include video as...
...example of such preference information is provided below.

Grouping I rank = I exclude? = no
(larger **ad**/more text)
Grouping 2 rank = exclude? = yes
(vivid color scheme and audio effects)
0 Grouping...

...no
(traditional color scheme and italics)
Grouping 4 rank = - exclude? = yes
(video and audio)
Larger **ad** size rank = 2 exclude? = no
5 Larger font size rank = 4 exclude? = no
Bold font...

...this example, the advertiser prefers that the enhanced feature "grouping I" be applied to its **ad**, then larger **ad** size, then more text, then larger font size, then bold font type, then persistence, and...

...features, such as "grouping 3", pop tip and pop under, to be applied to

its **ad** , but expressed no preference with respect to these features. Finally, the advenrtiser would preclude, enhanced...

...6 6grouping 4", vivid color scheme, animation, video and sound from being applied to its **ad** or **ads** .

' 4,2*7,3 PERMITTING CONTENT PROVIDER
CONTROL
In one embodiment of the invention, the content provider can exclude **ads** from being rendered with certain enhanced features on its document. For example, a content provider might exclude pop up **advertisements** , or **advertisements** with sound.

' 413A USING **AD** FEATURES TO SIGNAL **AD**
USEFULNESS
In one embodiment of the invention, feature changes, such as applying enhanced features (or...

...example, may also be used to indicate to the user the general quality of the **advertisements** . For example, if the predicted performance of most of the **ads** on a page is poor, then all **ads** may be rendered in a smaller size, less noticeable colors, or in a different region...
...This provides an incentive for 0 advertisers to improve the targeting and relevance of their **advertisements** , and it provides users with an (e.g., visual) indicator of the usefulness of the **ads** .

' 4,2*7,5 ENHANCED **AD** FEATURES WITH RESPECT
TO A SET OF EXPECTED **AD** SERVES
5
Although some of the foregoing embodiments focus on **ads** competing for a given page view, the principles of the present invention could be applied to **ads** that compete, ahead of time, on an aggregation of expected page views. In such an embodiment, enhanced features could include "primetime" serving, "prime location" serving, etc. For example, **ads** shown between 10 AM and 2 PM might generally perform better than those shown between 3 AM and 6 AM local time. In this case, serving an **ad** for rendering at a "primetime" could be thought of as an enhanced feature. In another example, **ad** served to a specific local n-Aght perform those served to another local. In this case, serving an **ad** for rendering at a "prime location" could be thought of as an enhanced feature.

4...

...FROVIDEID AS "SEARCH
EM-ULITS"
The present invention can be applied to many types of **ads** , including **ads** purporting to be search results. In this case, enhanced features may be applied to purported...

...43 EXEMPLARY OPERATIONS IN AN EXEMPLARY EM[BODIM[ENT
In the following example, suppose three **ads** , A, 13, and C are to be served with a document. Suppose further that **ad** A has the following preferences.

Larger **ad** size rank = I exclude? = no
Larger font size rank = - exclude? = no

Bold font type rank...

...no
Color schemes (vivid) rank = - exclude? = yes
0 Color schemes (traditional) rank 3 exclude? = no;
 ad B has the following preferences.

Larger ad size rank = 2 exclude? = no
5 Larger font size rank = - exclude? = no
Bold font type...
...no
Color schemes (vivid) rank = 1 exclude? = no
Color schemes (traditional) rank exclude? = yes;
and ad C has no preferences. Suppose further that the ad A has a
feature eligibility score of 100, ad B has a feature eligibility score
of 150 and ad C has a feature eligibility score of 75. Suppose that the
following policy thresholds are used to determine whether enhanced
features may be applied (i.e., whether the ad is eligible for such
enhanced features).

Bold font type score > 100
Color schemes (vivid) score...

...traditional) score > 50
More te"z@r@t score > 200 ANU remaining score 100
Larger ad @'Jse reiwa-ftiinu score > 75
Larger rcont slEe remaining score >75
In one ertibodimtnt of...

...advertiser has a different rank order). Suppose, that such scores are
decreased by 60 as ad features are added. Finally, suppose that the
document restrictions include (i) excluding the vivid color scheme, and
(ii) limiting the number of larger ads to one.

In this example, ad B would be rendered with a larger ad size (since
its score was higher than that of ad A and its remaining score (150) is
>75), with a larger font size (since its remaining score (150-60)>75),
and with bold font type (since its score > 100). However, ad B would
not have more text (since its score <200 and since its remaining score
(150 60)< 100).

Although ad B would be eligible to have a vivid color scheme (since its
score > 50), it would not have such a vivid color scheme applied due to a
document restriction. Although ad A would be eligible to have a larger
font size, since ad B already has this feature and a document
restriction limits the number of larger ads to one, ad A would not
have a larger ad size enhanced feature applied. Ad A would be
rendered with a traditional color scheme (since its score > 50). Ad C '
4A CONCLUSIONS 5 As can be appreciated from the foregoing disclosure,
present invention can be used to selectively apply enhanced features to
one or more ads . If desired ad or advertiser characteristics are used
in the determination of whether or not to apply certain enhanced features
to the ad , advertisers will be motivated to provide or obtain such
desired characteristics.
Determining whether or not to apply enhanced ad features in this way
should lead to better ads and markets than simply having advertisers

pay a fixed surcharge for various formatting options (which provides advertisers with little or no incentive to improve the content of their **ads** or their Website).

The foregoing description of preferred embodiments of the present invention provides illustration...

Claim
1 A method comprising:
a) accepting price information associated with an **advertisement** ; and
b) determining whether or not to apply one or more enhanced features to the **advertisement** using, at least, the accepted price information.

2 The method of claim 1 wherein the act of determining whether or not to apply one or more enhanced features to the **advertisement** includes determining at least one enhanced feature
eligibility score using, at least, the accepted price...

...act of determining whether or not to apply one or more enhanced features to the **advertisement** further uses information about a document with which the **advertisement** will be served.

4 The method of cUm 3 wherein the information about the document...

...act of determining whether or not to apply one or more enhanced features to the **advertisement** further uses at least one enhanced feature eligibility score of at least one other **advertisement** .
6 The method of claim 2 wherein the act of determining whether or not to apply one or more enhanced features to the **advertisement** further uses (i) at least one enhanced feature eligibility score of at least one other **advertisement** , and (ii) information about a document with which the **advertisement** will be served.

7 The method of claim I wherein the at least one enhanced feature includes at least one of (A) increasing a size of the **advertisement** , (B) increasing a font size of text in the **advertisement** , (C) changing a font type of text in the **advertisement** , (D) increasing an amount of text shown in the **advertisement** , (E) providing enhanced color schemes to the **advertisement** , (F) providing the **advertisement** with animation, (G) providing the **advertisement** with video, (H) providing the **advertisement** with sound, (1) providing the **advertisement** with sound effects, (J) providing the **advertisement** with persistence, (K) providing the **advertisement** in a pop-up window, (L) providing the **advertisement** in a way that occludes document content, (M) providing the **advertisement** in a pop under window, (N) providing the **advertisement** with a border, (0) 1 0 providing the **advertisement** with an enhanced border, (P) providing the **advertisement** at a 1 1 desired location on the document, (Q) providing the **advertisement** in a desired shape, and (R) 1 2 providing the **advertisement** with programmed interactivity.
8 The method of claim 1 wherein the price information includes at...

...one of (A) an amount that an advertiser has agreed to pay each time the **ad** is rendered, (B) a maximum amount that an advertiser has expressed that it is willing to pay each time the **ad** is rendered, (C) an amount that an advertiser has agreed to pay each time the **ad** is rendered and selected, (D) a maximum amount that an advertiser has expressed that it

is willing to pay each time the **ad** is rendered and selected, (E) an
average over time of the amount that the advertiser has agreed to pay
each time the **ad** is rendered and selected, (F) an average over time of
the maximum amount that the advertiser has expressed that it is willing
to pay each time the **ad** is rendered and selected, (G) an amount that
the advertiser has agreed to pay each time the **ad** is rendered and a
conversion, 1 0 associated with the **ad**, occurs, (H) a maximum amount
that the advertiser is willing to pay each 1 1 time the **ad** is rendered
and a conversion, associated with the **ad**, occurs, (1) cost per
selection 1 2 information, (J) cost per conversion information, (K) an...

...conversion information over time.

9 A method comprizing:
a) accepting performance information associated with an **advertisement** ;
and b) detern-lirling whether or not to apply one or more enhanced
features to the **advertisement** using, at least, the accepted performance
information.

10 The method of claim 9 wherein the act of determining whether or not to
apply one or more enhanced features to the **advertisement** includes
determining at least one enhanced feature
eligibility score using, at least, the accepted performance...

...the determination of whether or not to apply one or more enhanced
features to the **advertisement** uses at least the at least one enhanced
feature eligibility score and a policy. 1...

...act of deterrnining whether or not to apply one or more enhanced
features to the **advertisement** further uses information about a document
with which the **advertisement** will be served.

12 The method of claim I I wherein the information about the...

...act of determining whether or not to apply one or more enhanced features
to the **advertisement** further uses at least one enhanced feature
eligibility score of at least one other **advertisement** .
14 The method of claim 10 wherein the act of determining whether or not
to apply one or more enhanced features to the **advertisement** further
uses (i) at least one enhanced feature eligibility score of at least one
other **advertisement** , and (ii) information about a document with which
the **advertisement** will be served.

15 The method of claim 9 wherein the at least one enhanced feature
includes at least one of (A) increasing a size of the **advertisement** ,
(B) increasing a font size of text in the **advertisement** , (C) changing a
font type of text in the **advertisement** , (D) increasing an amount of
text shown in the **advertisement** , (E) providing enhanced color schemes
to the, **advertisement** , (F) providing the **advertisement** with
animation, (G) providing the **advertisement** with video, (H) providing
the **advertisement** with sound, (1) providing the **advertisement** with
sound effects, (J) providing the **advertisement** with persistence, (K)
providing the **advertisement** in a pop-up window, (L) providing the
advertisement in a way that occludes document content, (ND providing the
advertisement in a pop under window, (N) providing the **advertisement**
with a border, (0) 0 providing the **advertisement** with an enhanced

border, (P) providing the **advertisement** at a 1 desired location on the document, (Q) providing the **advertisement** in a desired shape, and (R) 2 providing the **advertisement** with programmed interactivity.

16 The method of claim 9 wherein the performance information includes at least one of (A) a click-through rate of the associated **advertisement**, (B) user ratings of the **advertisement**, (C) focus group ratings of the **advertisement**, (D) a measure of user interest for the **advertisement** weighted for a size of the **advertisement** relative to that of other **advertisements**, (E) a measure of user interest for the **advertisement** weighted for past positions of the **advertisement** relative to those past positions of other **advertisements**, (F) a measure of user interest for the **advertisement** weighted for enhanced features applied to the **advertisement** in the past, (G) expected user interest in the **advertisement**, (H) a time needed to render the **advertisement** relative to that needed to render other **advertisements**, (1) a measure of user interest for the **advertisement** 1 0 weighted for a media type of the **advertisement**, (J) a conversion rate associated with the 1 1 **advertisement**.

17 The method of claim 9 wherein the performance information has been adjusted to reduce the influence of enhanced features previously applied to the **advertisement**.

18 A method comprising:
a) accepting advertiser information associated with an **advertisement**; and b) determining whether or not to apply one or more enhanced features to the **advertisement** using, at least, the accepted advertiser information.

19 The method of claim 18 wherein the act of determining whether or not to apply one or more enhanced features to the **advertisement** includes determining at least one enhanced feature eligibility score using, at least, the accepted advertiser...

...the determination of whether or not to apply one or more enhanced features to the **advertisement** uses at least the at least one enhanced feature eligibility score and a policy.

20...

...act of determining whether or not to apply one or more enhanced features to the **advertisement** further uses information about a document with which the **advertisement** will be served.

21 The method of claim 20 wherein the information about the document...

...act of determining whether or not to apply one or more enhanced features to the **advertisement** further uses at least one enhanced feature eligibility score of at least one other **advertisement**.

23 The method of claim 19 wherein the act of determining whether or not to apply one or more enhanced features to the **advertisement** further uses (i) at least one enhanced feature eligibility score of at least one other **advertisement**, and (ii) infonnation about a document with which the **advertisement** will be served.

24 The method of claim 18 wherein the at least one enhanced feature includes at least one of (A) increasing a size of the **advertisement** , (B) increasing a font size of text in the **advertisement** , (C) changing a font type of text in the **advertisement** , (D) increasing an amount of text shown in the **advertisement** , (E) providing enhanced color schemes to the **advertisement** , (F) providing the **advertisement** with animation, (G) providing the **advertisement** with video, (H) providing the **advertisement** with sound, (1) providing the **advertisement** with sound effects, (J) providing the **advertisement** with persistence, (K) providing the **advertisement** in a pop-up window, (L) providing the **advertisement** in a way that occludes document content, (IM) providing the **advertisement** in a pop under window, (N) providing the **advertisement** with a border, (0) 0 providing the **advertisement** with an enhanced border, (P) providing the **advertisement** at a 1 desired location on the document, (Q) providing the **advertisement** in a desired shape, and (R) 2 providing the **advertisement** with programmed interactivity.

25 The method of claim 18 wherein the advertiser information includes at

...

...repeat purchases from the advertiser; (1) abnormally high price information; and (J) abnormally high advertising **budget** .

26 A method comprising:
a) accepting at least two of
- price information associated with an **advertisement** ,
- performance information associated with an **advertisement** , and
- advertiser information associated with an **advertisement** ; and
b) determining whether or not to apply one or more enhanced features to the **advertisement** using, at least, the accepted at least two of price information, performance information, and advertiser...

...act of determining whether or not to apply one or more enhanced features to the **advertisement** includes determining at least one enhanced feature eligibility score using, at least, the accepted at...

...the determination of whether or not to apply one or more enhanced features to the **advertisement** uses at least the at least one enhanced feature eligibility score and a policy.

28...

...act of determining whether or not to apply one or more enhanced features to the **advertisement** further uses information about a document with which the **advertisement** will be served.

29 The method of claim 28 wherein the information about the document...

...act of determining whether or not to apply one or more enhanced features to the **advertisement** further uses at least one enhanced feature eligibility score of at least one other **advertisement** . 3 1. The method of claim 27 wherein the act of determining whether or not to apply one or more enhanced features to the **advertisement** further uses (i) at least one enhanced feature eligibility score of at least one other **advertisement** , and (ii) information about a document with which the

advertisement will be served.

32 The method of claim 26 wherein the at least one enhanced feature includes at least one of (A) increasing a size of the advertisement, (B) increasing a font size of text in the advertisement, (C) changing a font type of text in the advertisement, (D) increasing an amount of text shown in the advertisement, (E) providing enhanced color schemes to the advertisement, (F) providing the advertisement with animation, (G) providing the advertisement with video, (H) providing the advertisement with sound, (I) providing the advertisement with sound effects, (J) providing the advertisement with persistence, (K) providing the advertisement in a pop-up window, (L) providing the advertisement in a way that occludes document content, (M) providing the advertisement in a pop under window, (N) providing the advertisement with a border, (0) 1 0 providing the advertisement with an enhanced border, (P) providing the advertisement at a 1 1 desired location on the document, (Q) providing the advertisement in a desired shape, and (R) 1 2 providing the advertisement with programmed interactivity.

33 A method comprising:
a) accepting
- price information associated with an advertisement,
- performance information associated with an advertisement, and
- advertiser information associated with an advertisement ; and
b) determining whether or not to apply one or more enhanced features to the advertisement using, at least, the accepted price information, performance information, and advertiser information.

34 The method...

...act of determining whether or not to apply one or more enhanced features to the advertisement includes determining at least one enhanced feature eligibility score using, at least, the accepted price...

...the determination of whether or not to apply one or more enhanced features to the advertisement use@3 at least the at least one. enhanced feature eligibility score and a policy...

...act of determining whether or not to apply one or more enhanced features to the advertisement further uses information about a document with which the advertisement will be served.

36 The method of claim 35 wherein the information about the document...

...act of determining whether or not to apply one or more enhanced features to the advertisement further uses at least one enhanced feature eligibility score of at least one other advertisement .

38 The method of claim 34 wherein the act of determining whether or not to apply one or more enhanced features to the advertisement further uses (i) at least one enhanced feature eligibility score of at least one other advertisement , and (ii) information about a document with which the advertisement will be served.

39 The method of claim 33 wherein the at least one enhanced feature includes at least one of (A) increasing a size of the advertisement, (B) increasing a font size of text in the advertisement , (C) changing a

font type of text in the **advertisement**, (D) increasing an amount of
text shown in the **advertisement**, (E) providing enhanced color schemes
to the **advertisement**, (F) providing the **advertisement** with animation,
(G) providing the **advertisement** with video, (H) providing the
advertisement with sound, (1) providing the **advertisement** with sound
effects, (J) providing the **advertisement** with persistence, (K)
providing the **advertisement** in a pop-up window, (L) providing the
advertisement in a way that occludes document content, (M-) providing
the **advertisement** in a pop under window, (N) providing the
advertisement with a border, (0) 0 providing the **advertisement** with an
enhanced border, (P) providing the **advertisement** at a 1 desired
location on the document, (Q) providing the **advertisement** in a desired
shape, and (R) 2 providing the **advertisement** with programmed
interactivity.

40 Apparatus comprising:
a) an input for accepting price infoimaLion asosocioted witli...

...means for determining whether or not to apply one or more enhanced
features to the **advertisement** using, at least, the accepted price
information.

41 The apparatus of claim 40 wherein the means for determining whether or
not to apply one or more enhanced features to the **advertisement**
includes means for determining uses at least one enhanced feature
eligibility score using, at least...

...means for determining whether or not to apply one or more enhanced
features to the **advertisement** further uses information about a document
with which the **advertisement** will be served.

43 The apparatus of claim 42 wherein the information about the document
...
...means for determining whether or not to apply one or more enhanced
features to the **advertisement** further uses at least one enhanced
feature eligibility score of at least one other **advertisement** .

45 The apparatus of claim 41 wherein the means for determining whether or
not to apply one or more enhanced features to the **advertisement** further
uses (i) at least one enhanced feature eligibility score of at least one
other **advertisement** , and (ii) information about a document with which
the **advertisement** will be served.
I

46 The apparatus of claim 40 wherein the at least one enhanced feature
includes at least one of (A) increasing a size of the **advertisement** ,
(B) increasing a font size of text in the **advertisement** , (C) changing a
font type of text in the **advertisement** , (D) increasing an amount of
text shown in the **advertisement** , (E) providing enhanced color schemes
to the **advertisement** , (F) providing the **advertisement** with animation,
(G) providing the **advertisement** with video, (H) providing the
advertisement with sound, (1) providing the **advertisement** with sound
effects, (J) providing the **advertisement** with persistence, (K)
providing the **advertisement** in a pop-up window, (L) providing the
advertisement in away that occludes document content, (i
/I) providing the, **advertisement** in a pop under window, QX) providing

the, **advertisement** with a border, (0) l 0 providing the **advertisement** with an enhanced border, (P) providing the **advertisement** at a 1 desired location on the document, (Q) providing the **advertisement** in a desired shape, and (R) 2 providing the **advertisement** with programmed interactivity.

47 The apparatus of claim 40 wherein the price information includes at...

...one of (A) an amount that an advertiser has agreed to pay each time the **ad** is rendered, (B) a maximum amount that an advertiser has expressed that it is willing to pay each time the **ad** is rendered, (C) an amount that an advertiser has agreed to pay each time the **ad** is rendered and selected, (D) a maximum amount that an advertiser has expressed that it is willing to pay each time the **ad** is rendered and selected, (E) an average over time of the amount that the advertiser has agreed to pay each time the **ad** is rendered and selected, (F) an average over time of the maximum amount that the advertiser has expressed that it is willing to pay each time the **ad** is rendered and selected, (G) an amount that the advertiser has agreed to pay each time the **ad** is rendered and a 0 conversion, associated with the **ad**, occurs, (H) a maximum amount that the advertiser is willing 1 to pay each time the **ad** is rendered and a conversion, associated with the **ad**, occurs, (1) cost per 2 selection information, (J) cost per conversion information, (K) an average...

...over time.

48 Apparatus comprising:
a) an input for accepting performance information associated with an **advertisement** ; and b) means for determining whether or not to apply one or more enhanced features to the **advertisement** using, at least, the accepted performance information.

49 The apparatus of claim 48 wherein the means for determining whether or not to apply one or more enhanced features to the **advertisement** includes means for determining at least one enhanced feature eligibility score using, at least, the...

...means for determining whether or not to apply one or more enhanced features to the **advertisement** further uses information about a document with which the adveitisement will be served.

51 The...
...means for determining whether or not to apply one or more enhanced features to the **advertisement** further uses at least one enhanced feature eligibility score of at least one other **advertisement** .

53 The apparatus of claim 49 wherein the means for determining whether or not to apply one or more enhanced features to the **advertisement** further uses (i) at least one enhanced feature eligibility score of at least one other **advertisement** , and (ii) information about a document with which the **advertisement** will be served.

54 The apparatus of claim 48 wherein the at least one enhanced feature includes at least one of (A) increasing a size of the **advertisement** , (B) increasing a font size of text in the **advertisement** , (C) changing a font type of text in the **advertisement** , (D) increasing an amount of

text shown in the **advertisement** , (E) providing enhanced color schemes to the **advertisement** , (F) providing the **advertisement** with animation, (G) providing the **advertisement** with video, (H) providing the **advertisement** with sound, (1) providing the **advertisement** with sound effects, (J) providing the **advertisement** with persistence, (K) providing the **advertisement** in a pop-up window, (L) providing the **advertisement** in a way that occludes document content, (M) providing the **advertisement** in a pop under window, (N) providing the **advertisement** with a border, (0) 1 0 providing the **advertisement** with an enhanced border, (P) providing the **advertisement** at a 1 1 desired location on the document, (Q) providing the **advertisement** in a desired shape, and (R) 1 2 providing the **advertisement** with programmed interactivity.

55 The apparatus of claim 48 wherein the performance information includes at least one of (A) a click-through rate of the associated **advertisement** , (B) user ratings of the **advertisement** , (C) focus group ratings of the **advertisement** , (D) a measure of user interest for the **advertisement** weighted for a size of the **advertisement** relative to that of other **advertisements** , (E) a measure of user interest for the **advertisement** weighted for past positions of the **advertisement** relative to those past positions of other **advertisements** , (F) a ineasure of user interest for Lhe **ad** @,fertisement weighted for enhanced features applied to the **advertisement** in the past, (Q) expected user interest in the **advertisement** , (H) a time, needed to render the **advertisement** relative to that needed to render other **advertisements** , (1) a measure of user interest for the **advertisement** 1 0 weighted for a media type of the **advertisement** , (J) a conversion rate associated with the 1 1 **advertisement** .

56 The apparatus of claim 48 wherein the performance information has been adjusted to reduce the influence of enhanced features previously applied to the **advertisement** .

57 Apparatus comprising:
a) an input for accepting advertiser information associated with an **advertisement** ; and b) means for determining whether or not to apply one or more enhanced features to the **advertisement** using, at least, the accepted advertiser information.

58 The apparatus of claim 57 wherein the means for determining whether or not to apply one or more enhanced features to the **advertisement** includes means for determining at least one enhanced feature eligibility score using, at least, the...

...means for determining whether or not to apply one or more enhanced features to the **advertisement** uses, at least, the at least one feature eligibility score and a policy.

59 The...

...means for determining whether or not to apply one or more enhanced features to the **advertisement** further uses information about a document with which the **advertisement** will be served.

60 The apparatus of claim 59 wherein the information about the document
...

...means for determining whether or not to apply one or more enhanced features to the **advertisement** further uses at least one enhanced feature eligibility score of at least one other **advertisement** .

62 The apparatus of claim 58 wherein the means for determining whether or not to...

...further uses (i) at least one cithanced feature eligibility score of at least one other **advertisement** , and (ii) infolination about a document with which the **advertisement** will be served.

63 The apparatus of claim 57 wherein the at least one enhanced feature includes at least one of (A) increasing a size of the **advertisement** , (B) increasing a font size of text in the **advertisement** , (C) changing a font type of text in the **advertisement** , (D) increasing an amount of text shown in
4 the **advertisement** , (E) providing enhanced color schemes to the **advertisement** , (F) providing the advertisement with animation, (G) providing the **advertisement** with video, (H) providing the **advertisement** with sound, (1) providing the **advertisement** with sound effects, (J) providing the **advertisement** with persistence, (K) providing the **advertisement** in a pop-up window, (L) providing the **advertisement** in a way that occludes document content, (M) providing the **advertisement** in a pop under window, (N) providing the **advertisement** with a border, (0) 0 providing the **advertisement** with an enhanced border, (P) providing the **advertisement** at a 1 desired location on the document, (Q) providing the **advertisement** in a desired shape, and (R) 2 providing the **advertisement** with programmed interactivity.

64 The apparatus of claim 57 wherein the advertiser information includes at...

...repeat purchasés from the advertiser; (1) abnormally high price information; and (J) abnormally high advertising **budget** .

65 Apparatus comprising:
a) an input for accepting at least two of
- price information associated with an **advertisement** ,
- performance information associated with an **advertisement** , and
- advertiser information associated with an **advertisement** ; and
b) means for determining whether or not to apply one or more enhanced features to the **advertisement** using, at least, the accepted at least two of price information, performance infonnation, and advertiser...

...the means for determining whether or not toapply one or more enhanced features to the, **advertisement** includes means for determining at least one enhanced feature eligibility score using, at least, the...

...information,
wherein the means for detennining whether or not to apply one or more enhanced **ad** features to the **advertisement** uses, at least, the at least one enhanced feature eligibility score and a policy.

67...

...means for determining whether or not to apply one or more enhanced features to the **advertisement** further uses information about a document with which the **advertisement** will be served.

68 The apparatus of claim 67 wherein the information about the document

...

...means for determining whether or not'to apply one or more enhanced features to the **advertisement** further uses at least one enhanced feature eligibility score of at least one other **advertisement** .

70 The apparatus of claim 66 wherein the means for determining whether or not to apply one or more enhanced features to the **advertisement** further uses (i) at least one enhanced feature eligibility score of at least one other **advertisement** , and (ii) information about a document with which the **advertisement** will be served.

71 The apparatus of claim 65 wherein the at least one enhanced feature includes at least one of (A) increasing a size of the **advertisement** , (B) increasing a font size of text in the **advertisement** , (C) changing a font type of text in the **advertisement** , (D) increasing an amount of text shown in the **advertisement** , (E) providing enhanced color schemes to the **advertisement** , (F) providing the **advertisement** with animation, (G) providing the **advertisement** with video, (H) providing the **advertisement** with sound, (1) providing the **advertisement** with sound effects, (J) providing the **advertisement** with persistence, (K) providing the **advertisement** in a pop-up window, (L) providing the **advertisement** in a way that occludes document content, (1hd) providing the **advertisement** in a pop under window, Q0 providing the **advertisement** with a border, (0) I 0 providing the adveific.@@,ernent with an enhanced border, (P) providing the **advertisement** at a 1 desired location on the document, (Q) providing the **advertisement** in a desired shape, and (R) 2 providing the **advertisement** with programmed interactivity.

72 Apparatus comprising:
a) an input for accepting
- price information associated with an **advertisement** ,
- performance information associated with an **advertisement** , and
- advertiser information associated with an **advertisement** ; and
b) means for determining whether or not to apply one or more enhanced features to the **advertisement** using, at least, the accepted price information, performance information, and advertiser information.

73 The apparatus...

...means for determining whether or not to apply one or more enhanced features to the **advertisement** includes means for determining at least one enhanced feature eligibility score using, at least, the...
...means for determining whether or not to apply one or more enhanced features to the **advertisement** further uses infon-nation about a document with which the **advertisement** will be served.

75 The apparatus of claim 74 wherein the information about the document

...

...means for determining whether or not to apply one or more enhanced features to the **advertisement** further uses at least one enhanced feature eligibility score of at least one other **advertisement** .

77 The, apparatus of claim 73 wherein the means, for determining vihether or not to apply one or more, enhanced features to the **advertisement** further uses (i) at least one enhanced feature eligibility score of at least one other **advertisement** , and (ii) information about a document with

4 which the **advertisement** will be served.

78 The apparatus of claim 72 wherein the at least one enhanced feature includes at least one of (A) increasing a size of the **advertisement** , (B) increasing a font size of text in the **advertisement** , (C) changing a font type of text in the **advertisement** , (D) increasing an amount of text shown in the **advertisement** , (E) providing enhanced color schemes to the **advertisement** , (F) providing the **advertisement** with animation, (G) providing the **advertisement** with video, (H) providing the **advertisement** with sound, (1) providing the **advertisement** with sound effects, (J) providing the **advertisement** with persistence, (K) providing the **advertisement** in a pop-up window, (L) providing the **advertisement** in a way that occludes document content, (M) providing the **advertisement** in a pop under window, (N) providing the **advertisement** with a border, (0) 0 providing the **advertisement** with an enhanced border, (P) providing the **advertisement** at a 1 desired location on the document, (Q) providing the **advertisement** in a desired shape, and (R) 2 providing the **advertisement** with programmed interactivity.

19/3,K/8   (Item 8 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00880983   **Image available**
OFFLINE-ONLINE INCENTIVE POINTS SYSTEM AND METHOD
SYSTEME DE POINTS BONUS FONCTIONNANT EN LIGNE ET HORS LIGNE ET PROCEDE
  CORRESPONDANT
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Application: WO 2001US24932 20010808 (PCT/WO US2001024932)
Priority Application: US 2000638457 20000814
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　AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ
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2004+)
　AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ
　EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS
　LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ
　TM TR TT TZ UA UG US UZ VN YU ZA ZW
　(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
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IPC + Level Value Position Status Version Action Source Office:
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Fulltext Availability:
　Detailed Description

English Abstract
　...applied to a soft drink bottle caps program. A soft drink company is
　sponsoring a **promotions** program where certain bottle caps are worth so
　many points. A consumer buys a soft...

French Abstract
　...boissons non alcoolisees. Une compagnie qui fabrique des boissons non
　alcoolisees sponsorise un programme de **promotion** selon lequel certaines
　capsules de bouteilles valent un certain nombre de points. Un
　consommateur achete...

Detailed Description
　... can earn points online, for example, by purchasing goods from an
　online merchant, clicking on **advertisements** , filling out registrations
　and surveys, and performing various other activities of interest to
　merchants, advertisers...may be motivated to take some action (e.g.,
　purchasing a product, clicking on an **ad** , registering with a website) to
　earn enough points so that he may redeem them and...

　...desirable items, consumers might be more motivated to participate in
　incentive award programs with greater **frequency** . If consumers thought
　they could obtain their desired items, almost regardless of the number of
　...home page or some web portal (e.g., Yahoo) that is sponsoring the
　bottle cap- **promotion** program. The user would register himself with the
　website, if he has not done so...can be earned in many ways, such as
　purchasing a product/service, clicking through an **advertisement** , or
　registering with a merchant. Other ways of earning points are described
　further below. The...that today is December 5, 1999. The user earns 10

points by clicking on an **ad** on Yahoo!'s website. Bucket B4 represents this quarter. Bucket B5 represents the next quarter...

...number of ways, such as by registration, by purchase of product/service, and by viewing **advertisements** . The consumer is not necessarily required to visit the Yahoo! site to earn points; rather...day to day) are of course possible.

Points can also be earned by viewing an **advertisement** . For example, a merchant places an **ad** in a website, preferably a high traffic site such as Yahoo's Internet portal. Through various means, the **ad** attracts the eye of the consumer. By clicking on the **ad** , the consumer's browser retrieves another web page which gives the consumer more information about the product/service/merchant info that was the focus of the **ad** .

15

The **ad** may initially indicate that the consumer may earn a certain number of incentive award points by clicking on the **ad** . Alternatively, the **ad** may require the consumer to jump through some hoops first before the points are actually delivered. By clicking on the **ad** and following any additional instructions, the merchant awards the promised number of points to the...merchandise or certain ways of earning points. For example, points earned by clicking on an **ad** expire in one year, but points earned by registration do not expire at all.

Another...
...disputed charges. This policy will not apply to some earned points such as " click-thru" **ads** , promotional trial memberships, and registrations.

Certain awards can be checked to make sure that they...

...credited more than the requisite number of times for the same action. Thus, a banner **ad** , which offers one-time-only points for clicking on the **ad** , may appear on a website for all to see. If a user clicks on that **ad** , he will earn his points. When he returns to that website, he will see that **ad** again. By click on the **ad** again, he should not be awarded points again since he earned them once already and this is a one-time-only **promotion** . Cookies may be used for this purpose. However, other embodiments will check the user's...

...totals in user accounts.

4,5 CONTROLS ON OUTSTANDING POINTS
Yahoo! Points will also be **budgeted** ; that is, certain controls will be implemented to limit the number of points that are...200. At step 201, the user performs some point-actionable event such as viewing an **advertisement** , purchasing a product, or registering with a website. Of course, not all of these events...unique OfferID is associated with a given event. Let's say that clicking on an **ad** is an event which triggers the point issuance. This particular event is associated with the

...

...regardless of the users who click on it. Even if multiple users click on this **ad** , the same OfferID is associated with this action for all the users. Similarly, if the same user clicks on the **ad** multiple times, the same OfferID will associated with this action.

The database server 136 then...

...serve as a precautionary step. Sometimes, a promotional award may have expired but the award **advertisement** may still be inadvertently left on the website. Other times, the merchant may have prematurely discontinued an award but the award **advertisement** may still be on a website. If the award is not valid at step 208...

...purchase, properly filling out a registration (with all required fields completed), and properly viewing the **advertisement** (a mere click-through may not be enough in some cases). If the award restrictions ...

...schedule "win," "lose," and "ineligible" strings, which are the HTML strings served into pages like **ads** . However, these strings are exemplary. Other strings for different **scenarios** can be **created** . For example, Yahoo! can serve **ads** that are dependent on the number of points a user has accumulated so far. So, a user with 1000 points can get a particular **ad** . Yahoo! can also serve **ads** that are dependent on how close the user's accumulated points are to their expiration...

...500 points are about to expire in the next week, Yahoo! will show a particular **ad** .

Moreover, the offer editor provides for the entry of point **budgets** . To test ...not be adjusted since the top bidders pay for the items at their respective bid **prices** .

7.0 AUTOMATED CLOSING
In one embodiment of the present invention, the auction closes automatically after the expiration...

...the time period should be selected such that it is long enough to optimize its **exposure** to potential bidders so that they may participate in the auction and short enough to...once every 12 hours, once every 6 hours, once every 3 hours, or some other **frequency** . Whether the check is for his actual bid (i.e., BIDNEw) or some other bid...also be able buy points from Yahoo! so that they can use them on banner **ads** or simply award them to selected consumers. When users click on an **ad** , the click is linked back to the **ad** server which keeps track of the various points from various campaigns, whether Yahoo-related or...

...other than Yahoo's website and distribute points to consumers from other point programs. The **ad** server will then be able to provide a report to the advertiser who can then...

...the 100,000 points in their website through some sort of sweepstakes or click-through **ads** .

In a further embodiment, Yahoo! may permit the creation of a secondary market for points...to a particular soft drink bottle caps program. A soft drink company is sponsoring a **promotions** program where certain bottle caps are worth so many points. A consumer buys a soft...and accessed via the Internet.

The incentive points database 305 contains various incentive points

banner **ads** and programs.
Additionally, the prerequisites for earning these incentive points are
also stored therein. Similarly...

...can be properly redirected to that website. In another embodiment, these
databases do not contain **ads** , programs, coupons or information; rather,
these databases contain only links where the user can be...

Your case

?
20/3,K/1   (Item 1 from file: 350)
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0013505914 - Drawing available
WPI ACC NO: 2003-598594/200356
XRPX Acc No: N2003-476895
**Inventory management system for inventory and revenue maximization, has
scenario planner that displays various scenarios generated by central
data storage system based on data from performance measurement and revenue
maximization systems**
Patent Assignee: CLEAR CHANNEL COMMUNICATIONS INC (CLEA-N)
Inventor: GINSBURG A; **MURRAY D R** ; **WEINBERGER A** ; **WILLIAMS J**
Patent Family (4 patents, 100 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
WO 2003060647	A2	20030724	WO 2003US1056	A	20030115	200356	B
US 20030154142	A1	20030814	US 200245089	A	20020115	200360	E
AU 2003207549	A1	20030730	AU 2003207549	A	20030115	200421	E
AU 2003207549	A8	20051027	AU 2003207549	A	20030115	200624	E

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   IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ
   NO NZ OM PH PL PT RO RU SC SD SE SG SK SL TJ TM TN TR TT TZ UA UG US UZ
   VC VN YU ZA ZM ZW
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   TZ UG ZM ZW
AU 2003207549 A1 EN   Based on OPI patent WO 2003060647
AU 2003207549 A8 EN   Based on OPI patent WO 2003060647

**Inventory management system for inventory and revenue maximization, has
scenario planner that displays various scenarios generated by central
data storage system based on data from performance measurement and revenue
maximization...**
...Inventor: **MURRAY D R** ...

... WEINBERGER A ...

... WILLIAMS J

Alerting Abstract ...NOVELTY - The system has a **scenario planner** (130) that displays various **scenarios** generated by a central data storage system (110). The central data storage system receives data...
...events using multiple variables in inventory control and optionally pricing fuzzy logic algorithms to create **scenario plans** which present the most profitable bundling **of offerings** and which meet the customer's needs. Ensures increased yield while improving customer experience by...

...130 **Scenario planner**

Original Publication Data by Authority

Inventor name & address:
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... **WEINBERGER A** ...

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... **Weinberger, Arthur** ...

... **Williams, Jerome** ...

... **GINSBURG, Allan** ...

... **MURRAY, David, R** ...

... **WEINBERGER, Arthur** ...

... **WILLIAMS, Jerome**
Original Abstracts:
...sell, budget (goal) information, advertiser payment history, and station performance data to feed to a **scenario planner** 130. Once three or more variables exist, inventory **and pricing** fuzzy logic algorithms create **scenario plans** to present the most profitable bundle of offerings. The **scenarios are typically** pre-approved although presented to the local business units 150 for an abnormality failsafe. Once...

...main systems that interact to build these scenarios are: an enterprise data-mart 110, a **scenario planner** 130, a performance

measure system 170, a rate or yield management subsystem 160, a traffic and accounts receivable **system** 180 and a similarly configured local inventory booking system 190. A business rules engine provides the...

...sell, budget (goal) information, advertiser payment history, and station performance data to feed to a **scenario planner** 130. Once three or more variables exist, inventory and pricing fuzzy logic algorithms create **scenario plans** to present the most profitable bundle of offerings. The scenarios are typically pre-approved although presented to **the local** business units 150 for an abnormality failsafe. Once processed by the local business units **150**, **the scenarios** are presented to the advertising buyer 120. Negotiations typically take place which cause for the...

...main systems that interact to build these scenarios are: an enterprise data-mart 110, a **scenario planner** 130, a performance measure system 170, a rate or yield management subsystem 160, a traffic...

...system 180 and a similarly configured local inventory booking system 190. A business rules engine **provides the** local rule definitions for scaling inventory and price to provide for the most profitable combination ...

...trois variables sont etablies, des algorithmes d'etablissement de prix a logique floue creent des **plans** de **scenario** afin de presenter le groupement d'offres les plus rentables. En general, les scenarios sont...

...unites commerciales (150) locales afin de se proteger en cas d'anomalie. Une fois traites **par** les **unites** commerciales (150) locales, les scenarios sont presentes a l'acheteur de publicite (120). En general...
Claims:
...various combinations of units are grouped together to meet a buyer's criteria; anda **scenario planner** to display the various **scenarios** generated by the central information **storage system.**>

20/3,K/2   (Item 1 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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01030623   **Image available**
INVENTORY AND REVENUE MAXIMIZATION METHOD AND SYSTEM
SYSTEME ET PROCEDE DE MAXIMISATION D'INVENTAIRES ET DE RECETTES
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  (Residence), US (Nationality), (Designated only for: US)
 WILLIAMS Jerome , 1405 Haventree Road, Durham, NC 27713, US, US
  (Residence), US (Nationality), (Designated only for: US)

English Abstract
  ...buyer (120). Once three or more variables exist, inventory and pricing
  fuzzy logic algorithms create **scenario** **plans** to present the most
  profitable bundle of offerings.

French Abstract
  ...trois variables sont etablies, des algorithmes d'etablissement de prix
  a logique floue creent des **plans** de **scenario** afin de presenter le
  groupement d'offres les plus rentables. En general, les scenarios sont...

Detailed Description
... events using multiple variables in inventory control and optionally
  pricing fuzzy logic algorithms to create **scenario** **plans** which present
  the most profitable bundling of ...various combinations of units are
  grouped together to meet a buyer's criteria; and a **scenario** **planner**
  to display the various **scenarios** generated by the central information
  storage system.

(00,17] The process for inventory management comprising...a baseline set
by management.

[0026] Figure 7 illustrates an exemplary process flow of the **scenario planner** .

[0027] Figure 8 is an exemplary table of ...advertising, -loor any other appropriate performance measurem ent service or system) is fed to a **scenario planner** 130 to be presented to the advertising customer 120 through a seller 140. The inventory...a ship, etc.

[0032] In some embodiments as shown in Figure 1, output of the **scenario planner** 130 is reviewed by a local station manager 150 before the seller 140 is authorized...

...this review process and conununication with the manager 150 can be omitted for pre-approved **scenarios** or altogether. The **scenario planner** 130 establishes a two-way communication with the enterprise central information storage system I 10...

...1 10. Once three or more variables exist, inventory and pricing fuzzy logic algorithms creates **scenario plans** to present the most profitable bundle of offerings via the **scenario planner** 130, through the local station manager 150 and the seller 140 to the advertising buyer ...The measurement is the current sellout read from the traffic systems 180, 190 via the **scenario planner** 130.

[0057] The filter requirements in the process diagram of Figure 4 include that the...and algorithms generated using a -neural network, for'example, to improve accuracy over time.

e) **Scenario Planner** 130
[0061] Rather than present advertising units one at a time, or in groups Which...
...time, the present invention will receive information about the customer's budget and design ,a **scenario** by the **scenario planner** 130 to present the customer 120 with a list of all units and additional information...purchase is canceled at step 526 and the process terminates at step 528.

3) Exemplary **Scenario Planner** Process (Fig. 7)
[0064] To facilitate an understanding of the functionality of the enterprise, inventory management system, functionality as viewed through the **scenario Planner** screen shots and process flow.will be explained with reference to Fig. 7.

'After entering...

Claim
... various combinations of units are grouped together to meet a buyer's criteria; and
a **scenario planner** to display the various **scenarios** generated by the central information storage system..

2 The inventory management system according to Claim...
?

ABSTRACT FILES

Set   Items   Description
S1   315422 AD OR ADS OR ADVERTISEMENT? OR PROMOTION OR PROMOTIONS
S2   351910 PRICING OR PRICES
S3   2036507 ESTIMAT? OR FORECAST? OR PREDICT? OR FORETELL? OR OUTLOOK?
S4   250442 SCHEDUL?
S5   10725   (S2 OR S3 OR S4)(5N)(COMPUTERI? OR ELECTRONIC? OR AUTOMATE-
              ??)
S6   3360   (CREAT? OR GENERAT? OR PRODUCE?? OR PRODUCING)(5N)SCENARIO-
              ??
S7   1811   (SCENARIO OR SCENARIOS)(5N)(PLAN? OR PLANS OR PLANNER)
S8   21797   PERFORMANCE()MEASUR?
S9   1449525 EXPOSURE OR FREQUENC? OR BUDGET?? OR DEMOGRAPHIC? OR PSYCH-
              OGRAPHIC?
S10   11989   AU=(GINSBURG, A? OR GINSBUR A? OR MURRAY, D? OR MURRAY D? -
              OR WEINBERGER, A? OR WEINBERGER A? OR WILLIAMS, J? OR WILLIAMS
              J?)
S11   110   S1 AND S5
S12   0   S11 AND (S6 OR S7 OR S8)
S13   346   S1 AND (S6 OR S7 OR S8)
S14   28   S13 AND S9
S15   16   S14 NOT PY>2002
S16   15   RD (unique items)
S17   8   S16 AND SCENARIO?
S18   0   S10 AND S7
S19   29   S7 AND S1
S20   1   S19 AND S8
S21   7   S10 AND S8
S22   5   S21 NOT PY>2002
S23   5   RD (unique items)
?

17/3,K/1   (Item 1 from file: 2)
DIALOG(R)File 2:INSPEC
(c) 2007 Institution of Electrical Engineers. All rts. reserv.

09023479 INSPEC Abstract Number: B2004-08-7550-043, C2004-08-7330-368
 Title: National pharmaceutical stockpile drill analysis using XML data
collection on wireless Java phones
 Author(s): Karras, B.T.; Huq, S.; Bliss, D.; Lober, W.B.

Author Affiliation: Dept. of Biomed. & Health Informatics, Washington Univ., Seattle, WA, USA
Conference Title: AMIA 2002 Symposium. Bio medical Informatics: One Discipline. Annual Symposium of the American Medical Informatics Association. Proceedings   p.365-9
 Editor(s): Kohane, I.S.
 Publisher: American Medical Informatics Assoc, Bethesda, MD, USA
 Publication Date: 2002 Country of Publication: USA   xl+1258 pp.
 Material Identity Number: XX-2003-00680
 Conference Title: Annual Symposium of the American Medical Informatics Association
 Conference Date: 9-13 Nov. 2002   Conference Location: San Antonio, TX, USA
 Language: English
 Subfile: B C

 ...Abstract: testing the distribution of medications to mock patients, thereby testing the treatment capacity of the **plan** given a post-anthrax **exposure**   **scenario** . The goal of the Public Health Informatics Group at the University of Washington (www.phig...
 ...Identifiers: **AD** 2002 January 24...

...post-anthrax **exposure**   **scenario** ;

17/3,K/2   (Item 2 from file: 2)
DIALOG(R)File 2:INSPEC

08013407 INSPEC Abstract Number: A2001-19-9240-005
 Title: **Climate change impacts on urban flooding**
 Author(s): Schreider, S.Yu.; Smith, D.I.; Jakeman, A.J.
 Author Affiliation: Integrated Catchment Assessment & Manage. Centre, Australian Nat. Univ., Canberra, ACT, Australia
 Journal: Climatic Change   vol.47, no.1-2   p.91-115
 Publisher: Kluwer Academic Publishers,
 Publication Date: Oct. 2000 Country of Publication: Netherlands
 CODEN: CLCHDX ISSN: 0165-0009
 SICI: 0165-0009(200010)47:1/2L.91:CCIU;1-I
 Material Identity Number: C212-2000-010
 U.S. Copyright Clearance Center Code: 0165-0009/2000/$18.00
 Language: English
 Subfile: A

 ...Abstract: concentration in the atmosphere. It is presented in two parts: 1. The modelling of flood **frequency** and magnitude under global warming and associated rainfall intensities and 2. The use of greenhouse...

 ... All fall within a region that will experience similar climate change under the available greenhouse **scenarios** . The GCMs' slab model **scenarios** of climate change in 2030 and 2070 will cause only minor changes to urban hood damage but the double CO_2 **scenarios** estimated using the Stochastic Weather **Generator** technique will lead to significant increases in building damage. For all the case studies, the hydrological modelling indicates that there will be increases in the magnitude and **frequency** of

flood events under the double CO_2 conditions although these vary from place...

... indicates the importance of using rainfall-runoff modelling in order to estimate changes in flood **frequencies** in catchments with different physical characteristics.
...Identifiers: flood **frequency** ; ...

... **AD** 2000 to 2070

17/3,K/3   (Item 3 from file: 2)
DIALOG(R)File 2:INSPEC
(c) 2007 Institution of Electrical Engineers. All rts. reserv.

06338702   INSPEC Abstract Number: A9618-9430-006
 Title: **Discrete, stimulated auroral kilometric radiation observed in the Galileo and DE 1 wideband data**
 Author(s): Menietti, J.D.; Wong, H.K.; Kurth, W.S.; Gurnett, D.A.; Granroth, L.J.; Groene, J.B.
 Author Affiliation: Dept. of Phys. & Astron., Iowa Univ., Iowa City, IA, USA
 Journal: Journal of Geophysical Research   vol.101, no.A5   p.10673-80
 Publisher: American Geophys. Union,
 Publication Date: 1 May 1996 Country of Publication: USA
 CODEN: JGREA2 ISSN: 0148-0227
 SICI: 0148-0227(19960501)101:A5L.10673:DSAK;1-6
 Material Identity Number: J047-96029
 U.S. Copyright Clearance Center Code: 0148-0227/96/96JA-00362$09.00
 Language: English
 Subfile: A
 Copyright 1996, IEE

...Abstract: spacecraft observed intense auroral kilometric radiation during the second Earth encounter in 1992. High-resolution **frequency** -versus-time spectrograms obtained by the wideband receiver of the plasma wave instrument on board...

...several examples of these signatures, seen also on the Dynamics Explorer 1 satellite, and examine **scenarios** for their **generation** .
...Identifiers: high-resolution **frequency** -versus-time spectrograms...

... **AD** 1992

17/3,K/4   (Item 4 from file: 2)
DIALOG(R)File 2:INSPEC
(c) 2007 Institution of Electrical Engineers. All rts. reserv.

05893496 INSPEC Abstract Number: A9507-9430-002
 Title: **Freja observations of electromagnetic ion cyclotron ELF waves and transverse oxygen ion acceleration on auroral field lines**
 Author(s): Erlandson, R.E.; Zanetti, L.J.; Acuna, M.H.; Eriksson, A.I.; Eliasson, L.; Boehm, M.H.; Blomberg, L.G.
 Author Affiliation: Appl. Phys. Lab., Johns Hopkins Univ., Laurel, MD, USA

Abstract: Extremely low- **frequency** (ELF) magnetic and electric field
plasma wave emissions were recorded on 2 October 1993 on auroral field
lines by the Magnetic Field Experiment during Freja orbit 4770. The ELF
wave **frequencies** were below the local oxygen gyrofrequency (25 Hz) and
between the helium and proton gyrofrequencies...
... ion acceleration than the waves below the oxygen gyrofrequency. These
observations are consistent with a **scenario** in which electron beams
generate EMIC waves, which then produce transverse oxygen ion
acceleration through a gyroresonant interaction.
...Identifiers: **AD** 1993 10 02

17/3,K/5 (Item 5 from file: 2)
DIALOG(R)File 2:INSPEC

04937767 INSPEC Abstract Number: A91105541
Title: **Investigation of micro-flaring and secular and quasi-periodic
variations in dMe flare stars. VII. A revived 'planetesimal-impact'
hypothesis and the young dM0.5e star Gliese 182**
Author(s): Andrews, A.D.
Author Affiliation: Armagh Obs., UK

...Abstract: that the U-band light curve over 1.6 h may be accurately
represented by **frequency** components from near zero to 16.7 mHz. This
monitoring interval includes a very large...

...is discussed in the context of the Ionson-Mullan resonating coronal loop
model and the **planetesimal scenario** .
...Identifiers: **AD** 1981 10 02...

... **frequency** components...
... **planetesimal scenario** ;

17/3,K/6 (Item 6 from file: 2)
DIALOG(R)File 2:INSPEC

04119371 INSPEC Abstract Number: A88065729
Title: **Quasi-periodic oscillations in the X-ray flux of the Rapid Burster
(MXB 1730-335)**
Author(s): Stella, L.; Haberl, F.; Lewin, W.H.G.; Parmar, A.N.; Van

Paradijs, J.; White, N.E.
  Author Affiliation: EXOSAT Obs., ESA, Noordwijk, Netherlands
  Journal: Astrophysical Journal   vol.324, no.1, pt.1   p.379-90 + 4
plates
  Publication Date: 1 Jan. 1988 Country of Publication: USA
  CODEN: ASJOAB ISSN: 0004-637X
  Language: English
  Subfile: A

  ...Abstract: detected together with persistent emission. Quasi-periodic
oscillations (QPO) were observed in 23 bursts with **frequencies** between 2
and 5 Hz. Among the models of QPO in low-mass X-ray binaries that involve
the presence of a neutron star magnetosphere, only the beat **frequency**
model is still consistent with the QPO properties of the Rapid Burster, but
only in...

... the central X-ray source by an oscillating accretion disk rim also
provides a viable **scenario** for the **generation** of the QPO from the Rapid
Burster.
  ...Identifiers: **AD** 1985 08 28...

...beat **frequency** model

17/3,K/7   (Item 1 from file: 35)
DIALOG(R)File 35:Dissertation Abs Online
(c) 2007 ProQuest Info&Learning. All rts. reserv.

01847037 ORDER NO: AADAA-I3023269
**An exploratory investigation of the sales forecasting process in the casual
theme and family dining segments of commercial restaurant corporations**
  Author: Green, Yvette Nicole Julia
  Degree: Ph.D.
  Year: 2001
  Corporate Source/Institution: Virginia Polytechnic Institute and State
       University (0247)
  Source: VOLUME 62/08-A OF DISSERTATION ABSTRACTS INTERNATIONAL.
       PAGE 2817. 192 PAGES
  ISBN: 0-493-34789-5

    ...and finance, to effectively develop programs to advance the
company. Examples of these programs include **budgets**, **promotion** and
advertising campaigns, training programs, and capital equipment proposals.
Research in restaurant sales forecasting will...

...relationship that the dimensions of the sales forecasting benchmarking
model (functional integration, approach, systems, and **performance
measurement**) had with level of accuracy of the sales forecast and level of
managers' satisfaction with...
...for analyzing the company participants based on the constructs of
functional integration, approach, systems, and **performance measurement**,
level of accuracy of the sales forecast and level of managers' satisfaction
with the sales...

...managers' satisfaction with the sales forecasting process. The analysis
also revealed that the constructs of **performance measurement** and level

of accuracy of the sales forecast might actually be one construct. Another dimension emerged, training, and **scenarios** were developed to relate training to the original dimensions. Recommendations were developed based on the...

17/3,K/8   (Item 2 from file: 35)
DIALOG(R)File 35:Dissertation Abs Online
(c) 2007 ProQuest Info&Learning. All rts. reserv.

01123491 ORDER NO: NOT AVAILABLE FROM UNIVERSITY MICROFILMS INT'L.
AN OPTIMUM FILTER DESIGN FOR A CROSS-SPECTRUM SYMBOL-RATE DETECTOR
  Author: KIM, SEOK HO
  Degree: PH.D.
  Year: 1990
  Corporate Source/Institution: UNIVERSITY OF SOUTHERN CALIFORNIA (0208)
  Source: VOLUME 51/05-B OF DISSERTATION ABSTRACTS INTERNATIONAL.
       PAGE 2530.

     ...for low input signal-to-noise ratio (SNR) situations have been derived under totally different **scenarios** using a multiple composite hypotheses testing. Beginning with the structures of optimum symbol-rate detectors and **ad** hoc symbol-rate detectors, we motivate the optimal design of a pre-correlation filtering system for use in a cross-spectrum symbol-rate detector, which consists of two radio- **frequency** pre-correlation filters, a multiplier and a narrow bandpass filter. The design generalizes practical cross-spectrum symbol-rate detectors, and derives the necessary condition which maximizes the **performance   measure** , i.e., the processed signal-to-noise ratio at a predetermined integer multiple of the...
...functions of pre-correlation filters and fixed signal model parameters. As a by-product, the **performance   measure** applicable to any quadrature amplitude modulation format is derived, including the effects of self-noise

...
?
20/3,K/1   (Item 1 from file: 2)
·DIALOG(R)File 2:INSPEC
(c) 2007 Institution of Electrical Engineers. All rts. reserv.

08957796   INSPEC Abstract Number: B2004-06-6250-104
  Title: **A network information theory for wireless communication: scaling laws and optimal operation**
  Author(s): Liang-Liang Xie; Kumar, P.R.
  Author Affiliation: Inst. of Syst. Sci., Chinese Acad. of Sci., Beijing, China
  Journal: IEEE Transactions on Information Theory   vol.50, no.5   p. 748-67
  Publisher: IEEE,
  Publication Date: May 2004 Country of Publication: USA
  CODEN: IETTAW ISSN: 0018-9448
  SICI: 0018-9448(200405)50:5L.748:NITW;1-G
  Material Identity Number: I044-2004-005
  U.S. Copyright Clearance Center Code: 0018-9448/04/$20.00
  DOI: 10.1109/TIT.2004.826631
  Language: English
  Subfile: B

...Abstract: account the distances between nodes, and the resulting attenuation of radio signals, and study a **performance measure** that weights information by the distance over which it is transported. Consider a network with...

... exponent. III) All receptions subject to additive Gaussian noise of variance sigma /sup 2/. The **performance measure** we mainly, but not exclusively, study is the transport capacity C/sub T/:=sup Sigma...

...balanced across the nodes, with no hop being too long. Or, in a randomly picked **scenario** , if nodes in a regular **planar** network randomly choose destination nodes, then the maximum common throughput that can be furnished to...
 Descriptors: **ad** hoc networks...
 ...Identifiers: **ad** hoc network
?
23/3,K/1   (Item 1 from file: 2)
DIALOG(R)File 2:INSPEC

08592916   INSPEC Abstract Number: B2003-05-7630-011, C2003-05-7460-025
 Title: **Modeling and performance assessment in QinetiQ of EO and IR airborne reconnaissance systems**
 Author(s): **Williams, J.W.** ; Potter, G.E.
 Author Affiliation: QinetiQ, Malvern Technol. Centre, UK
 Journal: Proceedings of the SPIE - The International Society for Optical Engineering Conference Title: Proc. SPIE - Int. Soc. Opt. Eng. (USA)
vol.4824   p.102-11
 Publisher: SPIE-Int. Soc. Opt. Eng,
 Publication Date: 2002 Country of Publication: USA
 CODEN: PSISDG ISSN: 0277-786X
 SICI: 0277-786X(2002)4824L.102:MPAQ;1-B
 Material Identity Number: C574-2003-003
 U.S. Copyright Clearance Center Code: 0277-786X/02/$15.00
 Conference Title: Airborne Reconnaissance XXVI
 Conference Date: 10-11 July 2002   Conference Location: Seattle, WA, USA
 Language: English
 Subfile: B C

 Author(s): **Williams, J.W.** ; Potter, G.E.
...Abstract: is the STAR (Simulation Tools for Airborne Reconnaissance) suite of models. STAR generates predictions of **performance measures** such as GRD (Ground Resolved Distance) and GIQE (General Image Quality) NIIRS (National Imagery Interpretation...

... sensor model EMERALD. The simulated image 'quality' is fully correlated with the predicted non-imaging **performance measures** . STAR also generates image and table data that is compliant with STANAG 7023, which may...

23/3,K/2   (Item 2 from file: 2)
DIALOG(R)File 2:INSPEC

07703113   INSPEC Abstract Number: B2000-10-6135E-108, C2000-10-5260B-342
Title: The neocognitron with back propagation for object recognition
Author(s): **Williams, J.** ; Bennamoun, M.
Author Affiliation: Space Centre for Satellite Navigation, Queensland
Univ. of Technol., Brisbane, Qld., Australia
Conference Title: DICTA'97 and IVCNZ'97. Proceedings of the First Joint
Australia and New Zealand Biennial Conference on: Digital Image and Vision
Computing - Techniques and Applications. DICTA'97. Digital Image Computing
- Techniques and Applications. IVCNZ'97. Image and Vision Computing New
Zealand   p.491-6
Publisher: Massey Univ, Palmerston North, New Zealand
Publication Date: 1997 Country of Publication: New Zealand   vi+588 pp.
ISBN: 0 473 04947 3   Material Identity Number: XX-2000-00772
Conference Title: Proceedings of First Joint Australia and New Zealand
Biennial Conference on Digital Image and Vision Computing: Techniques and
Applications. DICTA'97. IVCNZ'97
Conference Date: 10-12 Dec. 1997   Conference Location: Auckland, New
Zealand
Language: English
Subfile: B C
Copyright 2000, IEE
Author(s): **Williams, J.** ; Bennamoun, M.
...Abstract: images is compared with that of the standard Neocognitron
and the Neocognitron with feedback. The **performance   measures** are
classification accuracy under various distortions and classification time.
Results from this comparison indicate that...
...Identifiers: **performance   measures** ;

23/3,K/3   (Item 3 from file: 2)
DIALOG(R)File 2:INSPEC

05928596   INSPEC Abstract Number: A9509-8760K-042, B9505-7510B-072
**Title: Simulation and measurement of spatial resolution in detection of
annihilation radiation with BGO crystals**
Author(s): McDaniel, D.; Johnston, B.D.; Wack, D.C.; **Williams, J.J.**
Author Affiliation: Gen. Electr. Med. Syst., Milwaukee, WI, USA
Part vol.3   p.1739-43 vol.3
Editor(s): Klaisner, L.
Publisher: IEEE, New York, NY, USA
Publication Date: 1993 Country of Publication: USA   3 vol. 1930 pp.
ISBN: 0 7803 1487 5
U.S. Copyright Clearance Center Code: 0 7803 1487 5/94/$04.00
Conference Title: 1993 IEEE Conference Record Nuclear Science Symposium
and Medical Imaging Conference
Conference Date: 31 Oct.-6 Nov. 1993   Conference Location: San
Francisco, CA, USA
Language: English
Subfile: A B
Copyright 1995, IEE

Author(s): McDaniel, D.; Johnston, B.D.; Wack, D.C.; **Williams, J.J.**
Abstract: Spatial resolution **performance   measurements** of PET scanners

are sensitive to the long tails of the angular distribution of the...

23/3,K/4 (Item 4 from file: 2)
DIALOG(R)File 2:INSPEC
(c) 2007 Institution of Electrical Engineers. All rts. reserv.

03890179 INSPEC Abstract Number: C87032240
 Title: **Integration of accelerometer data: filter analysis and design using**
Riccati solutions
 Author(s): **Murray, D.M.**
 Author Affiliation: Inst. for Maritime Technol., Simonstown, South Africa
 Journal: IEEE Transactions on Automatic Control   vol.AC-32, no.2   p.
174-6
 Publication Date: Feb. 1987 Country of Publication: USA
 CODEN: IETAA9 ISSN: 0018-9286
 U.S. Copyright Clearance Center Code: 0018-9286/87/0200-0174$01.00
 Language: English
 Subfile: C

 Author(s): **Murray, D.M.**
 ...Abstract: formulated as a discrete-time optimal control problem which
requires the minimization of a quadratic **performance measure** subject to
linear dynamics. The algebraic Riccati equation associated with this
problem is solved by...
 ...Identifiers: quadratic **performance measure** ;

23/3,K/5   (Item 1 from file: 65)
DIALOG(R)File 65:Inside Conferences
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03292853 INSIDE CONFERENCE ITEM ID: CN034823613
Safety Performance Measures
 Phillips, B.; **Williams, J. L.**
 CONFERENCE: American Society of Safety Engineers-38th; Annual
   professional development conference
 PROCEEDINGS OF THE ANNUAL PROFESSIONAL DEVELOPMENT CONFERENCE-
AMERICAN
 SOCIETY OF SAFETY ENGINEERS, 1999; 38TH P: 549-570 .
 ASSE, 1999
 ISBN: 1885581262
 LANGUAGE: English DOCUMENT TYPE: Conference Papers
   CONFERENCE SPONSOR: American Society of Safety Engineers

 CONFERENCE LOCATION: Baltimore, MD
 CONFERENCE DATE: Jun 1999 (199906)
 NOTE:
 Theme title: Leading the professional into a Star-Spangled future

Safety Performance Measures
 Phillips, B.; **Williams, J. L.**
?

FULL TEXT FILES

File 20:Dialog Global Reporter 1997-2007/Dec 17
     (c) 2007 Dialog
File 15:ABI/Inform(R) 1971-2007/Dec 15
     (c) 2007 ProQuest Info&Learning
File 610:Business Wire 1999-2007/Dec 17
     (c) 2007 Business Wire.
File 810:Business Wire 1986-1999/Feb 28
     (c) 1999 Business Wire
File 476:Financial Times Fulltext 1982-2007/Dec 16
     (c) 2007 Financial Times Ltd
File 613:PR Newswire 1999-2007/Dec 17
     (c) 2007 PR Newswire Association Inc
File 813:PR Newswire 1987-1999/Apr 30
     (c) 1999 PR Newswire Association Inc
File 634:San Jose Mercury Jun 1985-2007/Dec 13
     (c) 2007 San Jose Mercury News
File 624:McGraw-Hill Publications 1985-2007/Dec 17
     (c) 2007 McGraw-Hill Co. Inc
File 9:Business & Industry(R) Jul/1994-2007/Dec 10
     (c) 2007 The Gale Group
File 275:Gale Group Computer DB(TM) 1983-2007/Dec 12
     (c) 2007 The Gale Group
File 621:Gale Group New Prod.Annou.(R) 1985-2007/Dec 06
     (c) 2007 The Gale Group
File 636:Gale Group Newsletter DB(TM) 1987-2007/Dec 13
     (c) 2007 The Gale Group
File 16:Gale Group PROMT(R) 1990-2007/Dec 11
     (c) 2007 The Gale Group
File 160:Gale Group PROMT(R) 1972-1989
     (c) 1999 The Gale Group
File 148:Gale Group Trade & Industry DB 1976-2007/Dec 06
     (c)2007 The Gale Group
File 256:TecInfoSource 82-2007/Apr
     (c) 2007 Info.Sources Inc

Set   Items   Description
S1   4661200 AD OR ADS OR ADVERTISEMENT? OR PROMOTION OR PROMOTIONS
S2   9874763 PRICING OR PRICES
S3   14835579 ESTIMAT? OR FORECAST? OR PREDICT? OR FORETELL? OR OUTLOOK?
S4   7356774 SCHEDUL?
S5   175308 (S2 OR S3 OR S4)(5N)(COMPUTERI? OR ELECTRONIC? OR AUTOMATE-
       ??)
S6   32008 (CREAT? OR GENERAT? OR PRODUCE?? OR PRODUCING)(5N)SCENARIO-
       ??
S7   22088 (SCENARIO OR SCENARIOS)(5N)(PLAN? OR PLANS OR PLANNER)
S8   151842 PERFORMANCE()MEASUR?
S9   6588731 EXPOSURE OR FREQUENC? OR BUDGET?? OR DEMOGRAPHIC? OR PSYCH-
       OGRAPHIC?
S10   3503 AU=(GINSBURG, A? OR GINSBUR A? OR MURRAY, D? OR MURRAY D? -
       OR WEINBERGER, A? OR WEINBERGER A? OR WILLIAMS, J? OR WILLIAMS
       J?)
S12   953 S1(5N)S5
S13   1 S12(5N)(S6 OR S7 OR S8)
S14   78 S1(5N)S7
S15   15 S14 AND S9
S16   15 S15 NOT S13

```
S17    8  S16 NOT PY>2002
S18    8  RD  (unique items)
S19    0  S10(5N)S7
S20    0  S10(5N)S6
?
```

13/3,K/1 · (Item 1 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
(c)2007 The Gale Group. All rts. reserv.

15768095   SUPPLIER NUMBER: 93917980   (USE FORMAT 7 OR 9 FOR FULL TEXT)
Needs assessments and business case analysis for technology investment
 decisions.
Miranda, Rowan
Government Finance Review, 18, 5, 12(5)
Oct, 2002
· ISSN: 0883-7856   LANGUAGE: English   RECORD TYPE: Fulltext
WORD COUNT: 4903   LINE COUNT: 00412

...   Users are not able to generate reports from their workstations nor
can standard reports be **scheduled** and delivered **electronically** . The
ability to create **ad** hoc reports or **create** "what if" **scenarios** for
analysis is limited. The
?
18/3,K/1   (Item 1 from file: 15)
DIALOG(R)File 15:ABI/Inform(R)
(c) 2007 ProQuest Info&Learning. All rts. reserv.

00969902 .96-19295
Scenario planning: A tool for strategic thinking
Schoemaker, Paul J H
Sloan Management Review v36n2 PP: 25-40 Winter 1995
ISSN: 0019-848X JRNL CODE: SMZ
WORD COUNT: 10372

...TEXT: our world possesses considerable momentum and continuity. For
example, we can safely make assumptions about **demographic** shifts (such as
increases in the average age) and substitution effects of new technologies
(e...and outside the firm), while focusing on interlinkages and the
internal logic within each future.

SCENARIO PLANNING AT AN AD AGENCY

The advertising industry has experienced a flurry of takeovers and mergers,
which has resulted...anything beyond seven years is quite uncertain and
hard to act on. Planning horizons and **budgets** rarely extend beyond five
years, since most investments (in people, buildings, and equipment) are
reversible...can have over a trend, the quicker it may vanish. A company
cannot change the **demographic** trend of an aging population, but an
industry can change price competition. When dealing with...

18/3,K/2   (Item 2 from file: 15)
DIALOG(R)File 15:ABI/Inform(R)

00842160 94-91552
Scenario planning and contingency planning
Bloom, Michael J; Menefee, Mary K
Public Productivity & Management Review v17n3 (Productivity Conference
Supplement) PP: 223-230 Spring 1994
ISSN: 1044-8039 JRNL CODE: PBP
WORD COUNT: 3121

...TEXT: in GDP, inflation and interest rates, and market cycles. Social
and political issues such as **demographic** changes, elections, wars, and
globalization are possible subjects. Several companies have drawn scenarios
on labor...

...organization is committing its resources.

A variety of individuals and groups can be involved in **scenario planning**
. **Ad** hoc committees or task forces can be set up. Line managers, who are
most familiar...

18/3,K/3   (Item 3 from file: 15)
DIALOG(R)File 15:ABI/Inform(R)

00725305 93-74526
Changing Management Approaches to Employee Relations in Ireland
Gunnigle, Patrick
Employee Relations v14n1 PP: 17-32 1992
ISSN: 0142-5455 JRNL CODE: EMP
WORD COUNT: 5799

...TEXT: less favourable pay and employment conditions, with little job
security or access to training and **promotion** . The flexible-firm **scenario**
is based on the **planned** development of this core/periphery employment
model together with a drive to increase flexibility in...since 1970.

LESS INDUSTRIAL CONFLICT

Using traditional indices of strike activity (man-days lost, strike
frequency and workers involved), the Irish record indicates a clear upward
movement in strike activity in...

18/3,K/4   (Item 4 from file: 15)
DIALOG(R)File 15:ABI/Inform(R)

00437211 89-08998
**A Model for Going Brand Copy Decisions: F A C S (Forecast Analysis of Copy
and Spending)**
Wilson, George
Journal of Consumer Marketing v5n4 PP: 69-76 Fall 1988
ISSN: 0736-3761 JRNL CODE: JCK

...ABSTRACT: plan and the adjusted percentage of unaware nonusers who were converted to the brand after **exposure** to the previous year's copy. The past year's data are replaced with the...

...previous year. With consumer reactions available, it is simple and inexpensive to simulate various media **plans**, distribution changes, **promotion scenarios**, and combinations. The FACS is based on validated New Product modeling methods pioneered by Princeton...

18/3,K/5   (Item 1 from file: 9)
DIALOG(R)File   9:Business & Industry(R)
(c) 2007 The Gale Group. All rts. reserv.

01926195 Supplier Number: 25402082   (USE FORMAT 7 OR 9 FOR FULLTEXT)
Nationwide to Unveil First National Television Campaign
(Nationwide launches $8 mil-plus advertising campaign, using 30- and
 60-second spots)
Bestwire, p N/A
August 23, 1999
DOCUMENT TYPE: Custom Wire (United States)
LANGUAGE: English RECORD TYPE: Fulltext
WORD COUNT: 531

    (USE FORMAT 7 OR 9 FOR FULLTEXT)

TEXT:
...the frame and seeing a cabin on a lake surrounded by his grandchildren. In another **scenario** based on college financial **planning**, an **ad** shows a mother and father viewing their children attending college with the help of Nationwide...

CONCEPT TERMS: Ad **budget** ;

 18/3,K/6   (Item 1 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)
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03869974   Supplier Number: 45557101 (USE FORMAT 7 FOR FULLTEXT)
Auto Damage
Delaney Report, v0, n0, pN/A
May 22, 1995
Language: English   Record Type: Fulltext
Document Type: Newsletter; Trade
Word Count: 229

 (USE FORMAT 7 FOR FULLTEXT)
TEXT:
...is made in U.S./Japan trade talks). Japanese luxury car marketers to slash ad **budgets** in response to stiff U.S. tariffs, funneling (ad) moneys into promotions and event marketing. "There will be deep cuts in ad **budgets**, with a major reallocation of money into promotional merchandising activity. Every promotional trick you can...

...contingency plans. Toyota has set up an eight-person committee to put

together a marketing/ **ad** tariff- **scenario** battle **plan** , for example.
Auto leasing programs are expected to benefit. "You're going to see a...
...   Rubin Postaer, Grey Advertising, Team One, TBWA Chiat/Day). "The
(tariffs) will be debilitating. The **budgets** will be cut, and that will
hurt us," said one executive at a Japanese auto...

18/3,K/7   (Item 1 from file: 148)

...   the seasonal plan is to maximize total gross margin, subject to
constraints on the ad **budget** , the number of markdowns or ads of a
particular type that can be used, as well as constraints on the **frequency**
of promotions during the season.
    Retail buyers generally use a trial and error approach to...

...Through the use of sensitivity analysis, the value of obtaining
additional resources, such as ad **budget** , inventory or price markdowns,
can be easily estimated. The system can also help prepare for...e.g.,
Achabal et al., 1990). We deal with wearout by using constraints on
promotion **frequency** . Buyers may have a rule that price markdowns in two
·successive weeks for the same...a variety of additional resource
constraints. These constraints may be in the form of dollar **budgets** for
the season, the total quantity of each resource available, such as pages of
advertising...

·...held back-to-back during the regular season. Clearly, many other
variations are possible. Advertising **budgets** can be used in place of ad
sizes. The spacing of ads might be constrained...defined as follows:
    Buyer's Plan: The buyer's actual promotional schedule applied to every
scenario
    Buyer's **Plan** - Modified: The **promotion** weeks are the same as the
buyer's initial plan, but prices and ad sizes...22% in both cases, while
the Single Scenario Plan falls between the two. The Single **Scenario   Plan**
uses only half page **ads** and 19% price markdowns. Among the discrete
alternatives, these are the single most profitable choices...price and ad
alternatives each week, subject to resource constraints. It allows for
different demand **scenarios** with corresponding adjustments in **promotion**
plans in subsequent weeks. An integer programming formulation was
developed for sample products from a major...small ads of identical size
are the most cost effective way to use a fixed **budget** of ad pages. On the
other hand, if more aggressive pricing is needed, increasing the markdowns
to the largest permissible size appears to be preferable to increasing the
markdown **frequency** . In terms of timing, it is important to hold ads and
price markdowns simultaneously and...
...broadened to include the selection of promotional resource levels. In
the case of the ad **budget** , for example, the subjective limit on the size

of the tab was the binding constraint...

18/3,K/8   (Item 2 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
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03924629   SUPPLIER NUMBER: 07693549   (USE FORMAT 7 OR 9 FOR FULL TEXT)
**Single source systems: retail management present and future. (data systems
 for decision making)**
Curry, David J.
Journal of Retailing, v65, n1, p1(20)
Spring, 1989
ISSN: 0022-4359   LANGUAGE: ENGLISH   RECORD TYPE: FULLTEXT
WORD COUNT: 5278   LINE COUNT: 00441

 ...   home); 5. to analyze these data to identify how marketing forces
interact with household geo- **demographics** and retail trade behavior to
influence consumption patterns; 6. to deliver actionable information to
management...store level; the reverse is not true. For example, household
data can be presented by **demographic** splits, by ethnic group, or by loyal
versus nonloyal buyer. Store-level data can be...

...and by time period. The critical difference: store level data cannot be
partitioned by consumer **demographics** , brand-loyalty measures, or any
other characteristics that refers to a household rather than a...simulates
test markets in order to design and position new products. Nielsen's
SCAN*PRO **Planner** allows clients to simulate **promotion scenarios** to
determine the most successful promotional plan. SAMI/Burke's marketing
models series (e.g...

...of the availability of single-source data. First, single-source systems
will merge with geo- **demographic** research systems. About the same time,
totally integrated, localized systems will link with the single-source/geo-
demographic liaison. Realistic market basket models will then pave the way
for integrated space management packages...

...are potentially less than five years away.
     SINGLE-SOURCE AND GEO-DEMOGRAPHY
     Four major geo- **demographic** systems are currently available: ACORN,
Cluster-Plus, PRIZM, and VISION. Each system consists of about S. Census
data.2 A geo- **demographic** system permits management to know each segment's
demographic , media, and product ownership profiles.
     Geo- **demographic** codes from any one of these systems can be assigned
to each member of a...

...the relational link needed to move between package goods purchasing,
response to marketing signals, and **demographic** geography. Package goods
manufacturers can then isolate differences in shopping basket selections
and media use between the segments in a particular GD-model, rather than
between more traditional **demographic** segments. For example, rather than
segment buyers of canned soup by family size or repurchase **frequency** ,
geo- **demographic** links will suggest unique buying, serving, and restocking
propensities by neighborhood type. These propensities can...

...Information Services, Claritas Corporation, and National Decision

Systems, respectively. For a detailed exposition of geo- **demographic** applications, see Michael J. Weiss, The Clustering of America, Harper & Row Publishers, 1988.

3The two...

...the needs and locations of specialized target segments. 2. to customize catalogues for different geo- **demographic** segments, and 3. to choose new sites, using refined trade-area response elasticities.

Trade-Area Elasticities

Geo- **demographic** models can be linked to U.S. Trade Area statistics to provide **demographic** detail highly resolved by trade area. Since geo- **demographic** profiles are linked to census data, trade-area elasticities can be calculated not only at...

...17-year-olds means an x percent increase in trade-area potential), but by geo- **demographic** segment, by store item, and by item within segment. Local trade-area elasticities are crucial...

...location decisions. Less motion funds among stores in a retail chain because they match customer **demographics** with item-by-item demand.

Totally Integrated Localized Systems

Although single-source systems are powerful...

...back to these neighborhoods.

A localized database, however, performs this function. It provides the names, **demographics** , and buying habits of shoppers frequenting a single store. Customers cooperate by using a store...

...and The Direct Marketing Newsletter, #9, (Sept. 1988). a purchase coupon to increase the purchase- **frequency** of known loyal customers of Grape-Nuts. As a consequence, the retailer's promotion money...What is b's share in region r? And, what is b's share in **demographic** split d?

Industry experts debate the merits of in-store scanner data versus warehouse-withdrawal...

AUTHOR SEARCH
?

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File  20:Dialog Global Reporter 1997-2007/Dec 17
        (c) 2007 Dialog
File 253:ONTAP(R) INPADOC/Family & Leg.Status
        (c) 2007 European Patent Office
File 266:FEDRIP 2007/Sep
        Comp & dist by NTIS, Intl Copyright All Rights Res
File 324:German Patents Fulltext 1967-200750
        (c) 2007 Univentio
File 331:Derwent WPI First View    UD=200780
        (c) 2007 The Thomson Corp.
File 345:Inpadoc/Fam.& Legal Stat 1968-2007/UD=200749
        (c) 2007 EPO
File 348:EUROPEAN PATENTS 1978-2007/ 200750
        (c) 2007 European Patent Office
File 349:PCT FULLTEXT 1979-2007/UB=20071213UT=20071106
        (c) 2007 WIPO/Thomson
File 371:French Patents 1961-2002/BOPI 200209
        (c) 2002 INPI.  All rts. reserv.
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File 432:Tampa Tribune 1998-2007/Dec 08
         (c) 2007 Tampa Tribune
File 471:New York Times Fulltext 1980-2007/Dec 18
         (c) 2007 The New York Times
File 473:Financial Times Abstracts 1998-2001/Apr 02
         (c) 2001 The New York Times
File 476:Financial Times Fulltext 1982-2007/Dec 16
         (c) 2007 Financial Times Ltd
File 486: Press-Telegram 1992- 2007/Dec 16
         (c) 2007 Long Beach Press-Telegram
File 492:Arizona Repub/Phoenix Gaz 19862002/Jan 06
         (c) 2002 Phoenix Newspapers
File 494:St LouisPost-Dispatch 1988-2007/Dec 16
         (c) 2007 St Louis Post-Dispatch
File 536:(GARY) POST-TRIBUNE 1992-1999/Dec 30
         (c) 2000 POST-TRIBUNE
File 577:Roanoke Times 1992-2007/Dec 14
         (c) 2007 Roanoke Times
File 587:Jane`s Defense&Aerospace 2007/Dec W1
         (c) 2007 Jane`s Information Group
File 619:Asia Intelligence Wire 1995-2007/Dec 15
         (c) 2007 Fin. Times Ltd
File 631:Boston Globe 1980-2007/Dec 14
         (c) 2007 Boston Globe
File 633:Phil.Inquirer 1983-2007/Dec 16
         (c) 2007 Philadelphia Newspapers Inc
File 634:San Jose Mercury  Jun 1985-2007/Dec 13
         (c) 2007 San Jose Mercury News
File 637:Journal of Commerce 1986-2007/Jan 11
         (c) 2007 Commonwealth Bus. Media
File 638:Newsday/New York Newsday 1987-2007/Dec 16
         (c) 2007 Newsday Inc.
File 641:Rocky Mountain News Jun 1989-2007/Dec 17
         (c) 2007 Scripps Howard News
File 643:Grand Forks Herald 1995-2007/Dec 13
         (c) 2007 Grand Forks Herald
File 652:US Patents Fulltext 1971-1975
         (c) format only 2002 Dialog
File 654:US PAT.FULL. 1976-2007/DEC 13
         (c) Format only 2007 Dialog
File 706:(New Orleans)Times Picayune 1989-2007/Dec 17
         (c) 2007 Times Picayune
File 710:Times/Sun.Times(London) Jun 1988-2007/Dec 17
         (c) 2007 Times Newspapers
File 711:Independent(London) Sep 1988-2006/Dec 12
         (c) 2006 Newspaper Publ. PLC
File 713:Atlanta J/Const. 1989-2007/Dec 16
         (c) 2007 Atlanta Newspapers
File 714:(Baltimore) The Sun 1990-2007/Dec 14
         (c) 2007 Baltimore Sun
File 715:Christian Sci.Mon. 1989-2007/Dec 17
         (c) 2007 Christian Science Monitor
File 717:The Washington Times Jun 1989-2007/Dec 14
         (c) 2007 Washington Times
File 718:Pittsburgh Post-Gazette Jun 1990-2007/Dec 17
         (c) 2007 PG Publishing
File 719:(Albany) The Times Union Mar 1986-2007/Dec 16
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(c) 2007 Times Union
File 727:Canadian Newspapers 1990-2007/Dec 17
          (c) 2007 Southam Inc.
File 733:The Buffalo News 1990- 2007/Dec 14
          (c) 2007 Buffalo News
File 734:Dayton Daily News Oct 1990- 2007/Dec 14
          (c) 2007 Dayton Daily News
File 735:St. Petersburg Times 1989- 2007/Dec 16
          (c) 2007 St. Petersburg Times
File 741:(Norfolk)Led./Pil. 1990-2007/Dec 16
          (c) 2007 Virg.-Pilot/Led.-Star
File 743:(New Jersey)The Record 1989-2007/Dec 12
          (c) 2007 No.Jersey Media G Inc
File 744:(Biloxi) Sun Herald 1995-2007/Dec 12
          (c) 2007 The Sun Herald
File 756:Daily/Sunday Telegraph 2000-2007/Dec 16
          (c) 2007 Telegraph Group
File 757:Mirror Publications/Independent Newspapers 2000-2007/Dec 17
          (c) 2007
File 781:ProQuest Newsstand 1998-2007/Dec 17
          (c) 2007 ProQuest Info&Learning
File 990:NewsRoom Current Jul 01-2007/Dec 17
          (c) 2007 Dialog
File 991:NewsRoom 2007 Jan 1-2007/Aug 30
          (c) 2007 Dialog
File 992:NewsRoom 2006
          (c) 2007 Dialog
File 993:NewsRoom 2005
          (c) 2007 Dialog
File 994:NewsRoom 2004
          (c) 2007 Dialog
File 995:NewsRoom 2003
          (c) 2007 Dialog
File 996:NewsRoom 2000-2002
          (c) 2007 Dialog

Set   Items   Description
S1   6166   AU=(ALLAN(2N)GINSBURG OR DAVID(2N)MURRAY OR
ARTHUR(2N)WEIN-
                 BERGER OR JEROME(2N)WILLIAMS)
S2   107   S1 AND (AD OR ADS OR ADVERTISEMENT? OR PROMOTION OR
PROMOT-
                 IONS)
S3   31848   (SCENARIO OR SCENARIOS)(5N)(PLAN? OR PLANS OR PLANNER)
S4   55524   (CREAT? OR GENERAT? OR PRODUCE?? OR
PRODUCING)(5N)SCENARIO-
                 ??
S5   0   S2(5N)S3
S6   0   S2(5N)S4
?